

**CZECH UNIVERSITY OF LIFE SCIENCES
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Faculty of Economics and Management

Department of Economics



Bachelor Thesis

**Economic analysis of export and import of military
systems in the Czech Republic**

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BACHELOR THESIS ASSIGNMENT

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Economics and Management

Thesis title

Economic analysis of export and import of military systems in the Czech Republic

Objectives of thesis

The aim of this economic analysis is evaluation of the conditions and influences of the current world political situation (namely in defense sector) on the import and export of defense equipment to and from Czech Republic as well as on the Czech defense and security industry.

Methodology

Literature review will be conducted using methods of induction, deduction and extraction.

Analytical section will be done by methods of qualitative and quantitative as well as analytical method of development tendencies over time

The proposed extent of the thesis

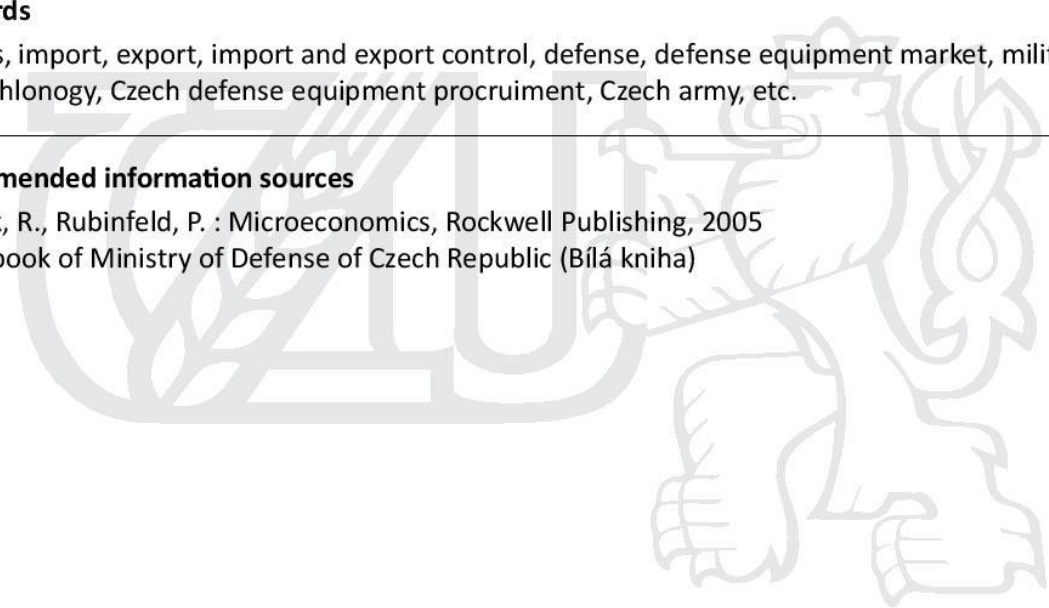
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Declaration

I declare that I have worked on my bachelor thesis titled "Economic analysis of import and export of military systems in the Czech Republic" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break copyrights of any third person.

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Economic analysis of export and import of military systems in the Czech Republic

Ekonomická analýza dovozu a vývozu zbraňových systémů v české republice

Summary

This bachelor thesis is concerned with the defence and security industry and export and import of military equipment in the Czech Republic. First part of this thesis is literature review, where the military equipment, export and import of military equipment and their conditions and not least the history and tradition are described. Subsequently, the SWOT and regression analyses are performed for 10 selected countries with the largest import from the Czech Republic for the period from 2005 to 2015. The goal is to determine which country is, in terms of exports from the Czech Republic, the most important and favourable. As a final point, the assessment of the analysis outputs and the overall conclusion are made.

Keywords: military equipment, export and import of military equipment, Defence and Security Industry, Czech Republic, economic analysis

Souhrn

Tato bakalářská práce se zabývá obranným a bezpečnostním průmyslem a vývozem a dovozem vojenského materiálu v České republice. První částí této práce je literární rešerše, kde je popsán vojenský materiál, vývoz a dovoz vojenského materiálu a jeho podmínky a v neposlední řadě historie a tradice. Následně je provedena SWOT a regresní analýza deseti vybraných zemí s největším dovozem z České republiky za období 2005-2015, s cílem určit, která země je pro Českou republiku z hlediska vývozu důležitá a výhodná. Jako poslední bod jsou zhodnoceny výstupy z regresní analýzy a formulován celkový závěr.

Klíčová slova: vojenský materiál, vývoz a dovoz vojenského materiálu, Obranný a bezpečnostní průmysl, Česká republika, ekonomická analýza

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1. INTRODUCTION

The world is changing in general, position of Czech Republic in the global economy is changing, national and international security environment is changing, world financial crisis has not been solved yet and at the same time we all want to live in peace and defend our democratic principles with the limited resources most of the countries including Czech Republic have at disposal.

The Czech Republic is a small, open economy which has no other alternative at present than to export in order to secure long-lasting and sustainable prosperity and economic development. Most of the local production including the military equipment is determined for export, on the contrary the decisive part of entries to our economy comes from abroad. Czech Republic in the world comparison belongs to the countries with highest rate of export of goods and services towards GDP and this rate is still increasing. The Czech foreign trade is highly dependent on the changes of the global markets and reacts to those changes quite dramatically. First rate task of the Czech Government should be the support to the Czech Companies in a fight for orders from the global markets by using the foreign net of our Ministries (Ministry of Trade and Industry, Ministry of Foreign Affairs), new services for the exporters, export financing and insurance with state participation, investments and innovation etc.

Although it is expected that the defence forces will be “slimmer” all over the world (with only few exceptions like China, North Korea, India, Pakistan etc.) then the same defence forces have to be much more modern, mobile, reliable and capable to defend their countries against all different threats (either individually or in alliances), appearing in the present world.

The Import and export of military equipment which, apart from the substantial political importance, from un-separable part of the economy have to be thoroughly analysed in order to use the available sources most effectively without any compromise on the security. It is subject of the following document.

2. GOALS AND METHODOLOGY

The underlying objective of the thesis is to analyse the export and import in the Czech Republic and to determine, with the help of SWOT analysis, the strong and weak points including the opportunities and threats of the Czech import and export of military equipment. The aim of this thesis is also determination of the priority countries for Czech export of military equipment through analysis of real data.

This bachelor thesis is divided into practical and theoretical part. First part is literature review which was done by various methods. First of all, the defence and security sector of the Czech Economy has a lot of specifics which the civilian business does not have. It is very wide and diversified and therefore a lot of concrete data had to be collected from literature provided in the electronic form, using methods of induction, deduction, extraction and comparison. Then, the data were also gathered via personal interviews with the vice-president for Cooperation and Trade of Defence and Security Industry Association of the CR. My sources for my particular chapters were taken from breakdown of annual reports of the Ministry of Industry and Trade (MIT) on the inspection of exports of military equipment, small arms for civilian use and goods and dual-use technologies.

With regard to the practical part, SWOT and regression analysis were used. SWOT analysis was used in order to find the most important factors influencing the Czech Defence and Security Industry and exports and imports of military equipment in general. The statistics from the Stockholm International Peace Research Institute (SIPRI) Military Expenditure Database (military spending), The World Bank data (annual GDP growth rate, military expenditure as % of GDP), historical yearly average exchange rates for 10 selected countries (exchange rate - local currency vs. CZK) and the data from the report of the Ministry of Industry and Trade for the year 2014 (Export from CR) were processed in a spreadsheet through regression analysis.

3. LITERATURE REVIEW

3.1 Definition of military Equipment

3.1.1 Classification of defence and security equipment as per the law and Ministry of Trade and Industry

Intimations

Military equipment is determined in accordance with the Czech Law No. 38/1994 Sb. dated 15.02.1994:

- a) Products, their parts and spare parts, which by their characteristic technical and construction properties are considered as designed/constructed or adapted to a use within the defence forces or security units, or they are widely used by these forces and units in order to fulfil the tasks of defence and security of the state.
- b) Machines, equipment, production units, production technologies, programming equipment, technical documentation or instructions produced, adjusted, equipped, designed, adapted for military use, particularly for development, production, inspection and testing other products, their parts and spare parts mentioned in paragraph a) above.
- c) Services provided in connection with defence as per para. a) and b) above, particularly repairs of all kinds and levels, modernizations and adaptations as well as giving information, sending and receiving the specialists for the purpose of development, construction, production, adaption, repairs, maintenance, use and control of defence and equipment.

The detailed list of military equipment is divided into several different categories - 22 so called SVMs (abbreviation in Czech – „Seznam Vojenského Materiálu“ = List of Defence Equipment) as per the Enclosure No. 1 to the Administration Decree No. 210/2012 Sb. dated 13.06.2012 which conform to the Common List of Defence Equipment of European Union. [1]

3.1.2 Dual-use equipment

Dual-use equipment, technologies and goods represent a wide range of products chemical, biological, nuclear and not least industrial.

These products are mainly manufactured and intended for civilian purpose, but they may be used due to their nature for military applications, primarily in manufacture of weapons of Mass Destruction and conventional weapons. International inspection regimes such as Wassenaar Arrangement (WA), the Australia Group (AG), Nuclear Suppliers Group (NSG) and the Missile Technology Control Regime (MTCR), where Czech Republic is a member of these groupings and actively and responsibly monitor this Foreign Trade of dual-use equipment.

Governments should adopt legislation requiring academic institutions or private companies to carry out research on dual-use equipment or material, just in case these institutions have licence. [2]

The list of dual-use equipment form enclosure to the European Union statute No. 1334/2000/ES in reading statue No. 2004/1504/ES. The mentioned European Union statue was incorporated into the law No. 594/2004 Sb. dated 04.11.2004 in its new version No. 343/2010 Sb. dated 27.10.2010 by which the European Union regime for inspection of import, export, transport, mediation and transit is implemented. [3]

3.1.3 Very important military equipment – special category

Very important military equipment is such military equipment which has very high effectiveness in its practical utilization or the military equipment the number of which is in high quantities over the usual numbers required by the particular countries for their own defence. The list of this very important military equipment forms Enclosure No. 2 to the Administration Decree No. 210/2012 Sb. dated 13.06.2012 which conform to the Common List of Defence Equipment of European Union. [1]

3.2 Specifics and differences of defence equipment in comparison with non-defence equipment

3.2.1 Customers

3.2.1.1 General

The customers for export as well as import of military equipment are in majority only the government entities i.e. ministries, government institutions and organizations or private but strictly government licensed military equipment manufacturers, suppliers and providers of respective services related to the military equipment.

On the contrary to the „civilian“ markets have the customers from all spheres of the society – state owned, private, co-operatives, individuals etc.

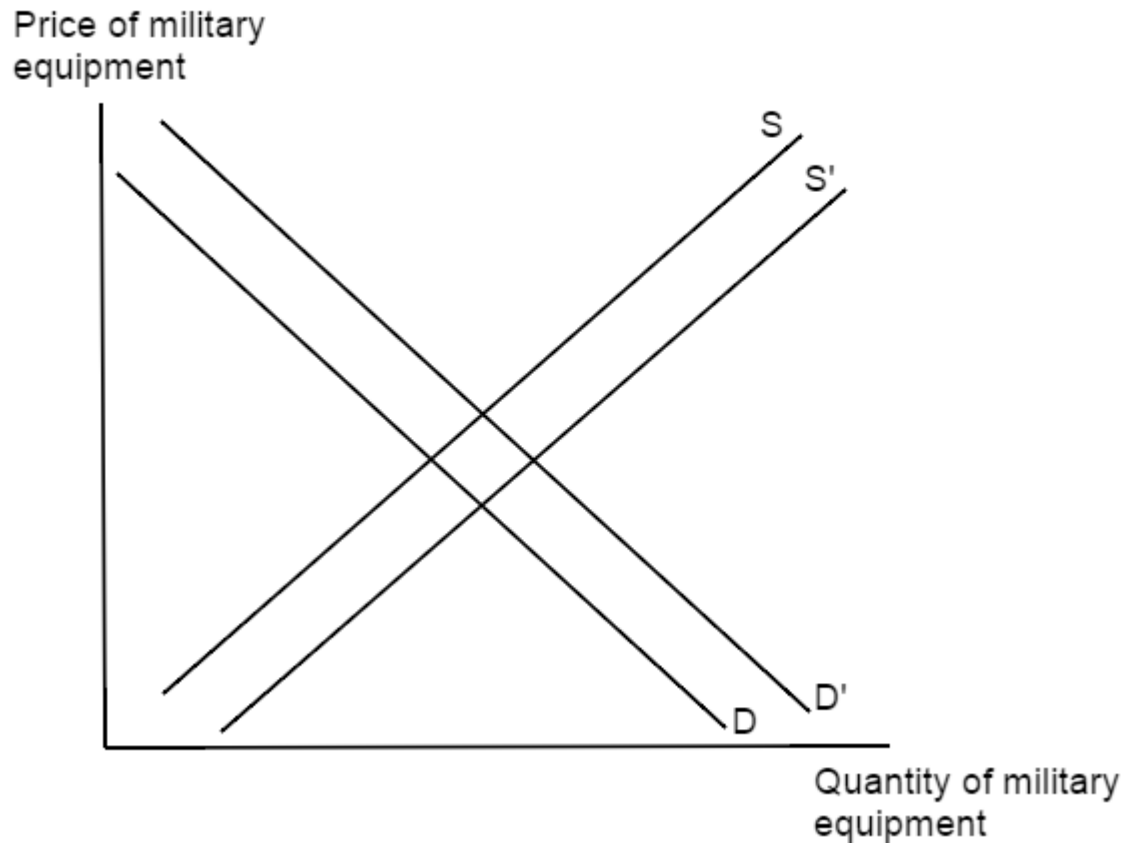
The final end-users of the military equipment are almost always force ministries and their organizations and therefore the export and import of the military equipment is very much political matter in the individual countries. Multilateral as well as bilateral relationship of the countries play very important role in the military business and can influence quite heavily the decisions about the procurements. Big, well-established, economically strong and politically influential “players” in the world market with the military equipment and related services have always certain advantages (namely in the larger procurement projects) against the other not so influential “players”. In other words the technical and economic criteria of the military procurement are quite often the second criteria towards the principal but not declared political factors.

3.2.1.2 Imports

The customers better say end-users in the Czech Republic for military equipment and services are exclusively Ministry of Defence – Czech Armed Forces, Ministry of Interior and Czech Police and special units or institutions under the government control. The customer could be also a private, mainly the production company, but in such case it is import of incomplete items or only import of certain parts or assemblies/subassemblies to be completed by the Czech final supplier/producer and ultimately delivered to the above

mentioned end-users. In all cases the imports are strictly controlled by the government administration – Ministry of Trade and Industry. [4]

This can be also represented by S-D relationship.



When the Demand of Quantity of military product increases, then the Price of military equipment increases as well. On the other hand, when the Supply increases, then the Price goes down. [5]

The suppliers of military equipment to the Czech Republic are in majority of the cases from the NATO or EU countries. The main, quite obvious reasons of this fact are:

- political = Czech Republic is member of NATO and as such it should be equipped as much as possible with the NATO compatible military equipment
- Technical = most advanced defence military equipment suitable for the use by Czech end-users in order to fulfil their tasks are produced in NATO and EU countries.

3.2.1.3 Exports

It is necessary to mention that Czech defence and security industry is an export oriented industry, because the local market, although very important as the first and reference customer (it is almost a must for success in the export activities), cannot absorb the production of the Czech defence and security industry in the quantities to be economical for the producers. In other words the Czech military production to be economical should be exported.

The natural customers for the Czech defence and security industry products and services would be the NATO and EU countries as the allied forces. But the truth is that most of the NATO and EU military requirements are fully covered by their own military industry and it is very difficult to penetrate to these markets with Czech defence and security industry products. On the contrary Czech defence and security industry is facing a strong competition from NATO and EU countries and their producers in our local market as well as in the international market.

Within NATO and EU countries the customers are the same as in case of our imports to Czech Republic i.e. government ministries and organizations/institutions and also companies authorized by their governments to do the business with the military equipment which is ultimately delivered to the end-users – defence forces, police and other special units.

The customers outside of NATO and EU are, with only few exceptions, exclusively the government ministries or government owned public undertakings or similar organizations always under the government control. [4]

3.2.2 Contract conditions – effectiveness, delivery times, transport and insurance, prices and payment conditions

In spite of the fact that the business with the military equipment is in principle standard business as any other business it has its own specifics, which influence the contract conditions both in exports and imports. In general it is very strict respecting all laws, rules and regulations in export and import countries (non-observance is punishable), it requires lot

of administration works and special arrangements (approvals, licenses, permissions etc. which take time to receive), its financing is more difficult (banks attitude towards this business is reserved), it is quite often under the political influence (the quality and the price may not be the decisive factors, different approach in case of emergency, restrictive measures), it has more difficult after-sale service and inspections (time and money consuming). These specifics make this business more complicated and also more costly resulting in the final prices, delivery times and other conditions of the contracts.

Signing of the contract by the parties may not be the guarantee that the business would be realized. First of all both contracting parties have to get the respective export/import licenses (the time is practically not limited) and only then the contract can become effective and the production and delivery can be planned and the prices can be calculated. Delivery time may therefore be quite different from that expected and may result in problems with the customer.

One of the most complicated parts of the business with the military equipment is transport and insurance. Because of the character of the goods to be transported and insured during the transport there must be very detailed plan of transport including armed escorts from “A” to “Z” (from the producer/supplier to the buyer/end-user), eventual transshipment and, of course, all necessary approvals and permissions. In majority of the cases the normal means and way of transport cannot be used and special (much more costly) arrangements have to be carried out.

Insurance of military equipment is also not an easy job but again because of the character of the goods it is a must.

Prices and payment conditions are influenced by, but not limited to, all above mentioned factors and ultimately decide about the economy of the export/import. [6]

Policies and procedures are detailed examined in International Directory for selling military products and services from the year 1991. [7]

3.3 Political environment and its expected development

3.3.1 General - international

Our world is changing quite fast. The scope, intensity and direction of changes are different in various parts of the Globe.

What are the common conditions of the contemporary world related to its security?

- The threats of regional conflicts are rising.
- New methods and threats of organized international crime are appearing.
- Activation of drugs cartels, rising of piracy, cyber-attacks are propagating.
- The risks concerning energy and water resources and strategic materials are rising.
- More often biological threats and natural or industrial catastrophes, epidemics.
- World financial crisis not yet finally recovered.
- Bi-polarity of the world is returning in a stronger manner.
- International terrorism becomes really international involving most of the countries of the world including the most powerful countries USA and BRICS.

At the same time we want to live in peace, defend our democratic principles, eliminate above mentioned threats and problems with the means we have at our disposal.

The globalization of the world brings undoubtedly lot of positive results but it also shows its negative side. Unfortunately the above mentioned facts are the “rear side of the coin” and to tackle all that without any armed conflicts jeopardizing lives and materials will require common, long lasting and mutually acceptable efforts and agreements. It will be “long journey” but the leaders and diplomats of the countries and multinational alliances have all possibilities and means to do their best in this respect. At the same time they have to be well prepared mentally, physically and materially in order to deter all kinds of terrorists and criminals from any illegal activities. [8]

3.3.2 EU/NATO/V4

All above mentioned threats and problems refers also very much to EU/NATO/V4. More over Europe is facing another, new and very serious problems:

- Illegal immigration from Middle East, Indian subcontinent and Africa.
- Different approach of individual EU member countries to this problem and its solution.

Responding to the negative implications of globalization, including combating terrorism and organized crime, is also recognized by the EU as a critical and urgent priority that requires action on a trans-regional basis – something which is reflected in many existing programmes and backed by substantial investment.

The big, well established, economically strong and politically influential “players” on the world market always have certain advantages against not so strong and influential players like the Czech Republic belong to. In other words technical and economic criteria for procurement of military and security equipment usually be only second-rate against the principal but not declared political factors. [9]

3.3.3 Internal

Position of the Czech Republic in the global economy and international environment is changing, national and international security environment is changing too.

In order to solve and settle all of the above mentioned challenges, threats and problems Czech Republic has to use all of its local existing defensive possibilities (present inventory and local defence and security industry), modernize its equipment and facilities either from its own resources or in cooperation with the allies and, of course, closely co-operate with NATO and other friendly countries on bilateral or multilateral basis.

The local sources from Defence and Security Industry are very limited (it corresponds to the size and results of our economy) and do not, better say cannot cover all the requirements of the respective organizations and institutions. That is why we have to

import a lot of military and security equipment and services. On the other hand we want to export the production of our defence and security industry to the world.

Our natural partner for such exports should be mainly the EU and NATO countries. But the truth is that most of their requirements are covered fully by their own industry (always preference) and it is very difficult to penetrate this market with the Czech products. On the contrary, Czech defence and security industry has to face strong competition from EU and NATO countries both in the local market as well as in the international market. The alliance V4 also has did not bring any positive result in our common efforts so far.

In general it is to be stated that the quality of international but mostly bilateral relations of Czech Republic with other individual countries of the world plays very important role in the business with the military and security equipment and could be the crucial factor in decisions about the procurement of such equipment. [8] [10]

3.3.4 Nowadays major problem – Islamist state

Islamist state is a radical Jihadist organization, also known as militant group IS, which arrived dramatically to the international scene. Its territory is spread out mainly in Syria and Iraq. IS follows Islamic law called Sharia, which serves as a code for Muslim's life. ISIS (Islamic state of Iraq and Syria) takes this tradition to the extreme level and became "famous" for its brutality, mass shooting and beheadings. Their ultimate goal is to make up caliphate, it means to rule all the world and turn Islamic state into a "real legitimate" state with a very conservative Islam and intolerance. According to these extremists ideology, they have produced immense sophisticated propaganda to attract people to fight. These propagandas have persuaded more than 28 000 foreign fighters to join IS over to past two years. [11]

From the recent attacks in Paris where more than 120 people have died, IS declared world war. Due to the constant growth in the number of migrants from Syria, Iraq, Eritrea etc. the European people are increasingly afraid of potential terrorist attacks.

3.4 Legal aspects and binding conditions for export and import of defence equipment

3.4.1 International – UN, EU, NATO.

Common rules of EU for control of military equipment exports. In the year 2008 council of EU countries ministers for foreign affairs adopted “Common position 2008/944/SZBP” which stipulates common rules for control of exports of military technologies and military equipment. This document contains criteria used by EU member countries for evaluation of any and each export of military equipment. These criteria were adopted by EU member states as politically binding “EU Code of Conduct on Arms Exports”. [12]

Upgrade of this Code of Conduct to Common position and relation of its principles with the national legislation means the strengthening and higher transparency of the Czech control system and its full integration to the EU frame.

The basic principles of common position of EU countries are:

- International obligations of EU member states (sanctions of UN Security Council, EU and other international institutions, agreements on non-proliferation etc.)
- Respect the human rights in the end-user’s countries, including the international humanitarian law.
- Internal situation in the end-user’s countries.
- Observation of the regional peace, security and stability.
- National security of EU member states and their territories and security of the friendly and allied countries.
- Behaviour of the end-user’s country towards the international community, mainly relation towards terrorism.
- Elimination of the risk that the subjected military equipment would be re-exported to other country that approved end-user’s country.
- Compatibility of the export with the technical and economical capacity of the receiving country. [13]

As it is already known, EU and NATO examine different area of activities. Although, from the Cold war they started to cooperate with each other. The EU-NATO relationship are described from a legal and political perspective in same called book. [14]

3.4.2 Bilateral/Multilateral – Memorandum of Understanding, Co-operation agreements

Apart from the international agreements and treaties which are in general binding for all the countries including EU the individual countries may have bilateral or multilateral agreements on certain concrete co-operation in the specific fields including the defence and security. The example of multilateral co-operation agreement on government level is so called “V4” (Visegrad 4 – Poland, Slovakia, Hungary and Czech Republic).

There are also agreements or Memorandums of Understanding (MOU) between the ministries and in our case Ministry of Defence or Ministry of Interior where the basic principles of mutual co-operation are described. This possibility is applicable also for the non-EU member countries.

In the foreign trade with military equipment all these agreements and MOUs have to be considered and, of course, used in favour of the exporters and importers of the military equipment. [15]

3.4.3 Internal – laws, intimations, other related regulations

Foreign trade with military equipment belongs formally to Czech Ministry of Industry and Trade (MIT). In order to secure the most effective control of military equipment exports and imports MIT closely co-operates with Ministry of Foreign Affairs, Ministry of Interior, Ministry of Defence and intelligence services.

In conformity with the law No. 38/1994 Sb. in latest version the control of foreign trade with military equipment in the Czech Republic is carried out in two stages:

- The producers and companies are authorized to offer their products and services, enter into negotiations with the foreign partners etc. only after they receive the corresponding approval from MIT allowing them to do the foreign trade with military equipment (general approval valid for 5 years).
- For realization of the concrete businesses it is necessary to apply for the specific licence for each individual commercial contract.

In principle the Czech legislation in this respect follows the legislation of EU and its institutions e.g. Directive of European Parliament and Council No. 2009/43/ES dated 06.05.2009. [1]

3.4.4 Limitations

Limitations, if any, follow from the above mentioned legal aspects and binding conditions for export and import of military equipment. They may slightly differ in individual EU member states, but the principles are the same not only in EU countries but in most of the other countries involved in foreign trade with military equipment.

3.4.5 Project of the Arms Trade Treaty

The Arms Trade Treaty (ATT) is legally-binding, global contract that regulates and improve the international standards with international trade of conventional weapons. The aims of this agreement is to precede and protect illicit trade with conventional weapons and their abuse, to contribute reducing human suffering and secure international and regional peace, safety and stability. The contract covers all conventional weapons listed in the UN Register of Conventional Arms and they are: battle tanks, armoured combat vehicles, large calibre artillery systems, combat aircraft, attack helicopters, warships, missiles and launchers and small arms and light weapons. [16]

The Treaty was signed on 3. June 2013 by the representative on behalf of the Czech Republic and other members of United Nations. [17]

3.5 History and tradition of military equipment production and exports/imports

3.5.1 Czechoslovak/Czech Defence and Security Industry production/products and technologies – development and changes

The defence and security industry has a long lasting and famous tradition in what is today the Czech Republic. Its foundations were already laid down at the Austro-Hungarian Empire. Czechoslovakia devoted increasing care to its defence after its establishment in 1918 after the World War I. This care intensified especially in 1930's when the country's existence was threatened by Hitler's Germany. The undeniable fact is that before the World War II Czechoslovakia ranked among first ten arms exporters in the world.

The post war development also necessarily affected this industry. The directive system of the Warsaw Treaty Organization and the development of industrial base facilitated production of heavy armoured equipment and large series of trainer aircrafts together with the production of small arms, small arms ammunition, electronic equipment etc.

The Czech military industry passed through challenging and fast process of privatization and restructuring in very short period after 1989. The centralized monopoly foreign trade in general – including the defence and security sector was abolished and a new market system introduced. It was heavily impacted by the disintegration of traditional markets and necessity to quickly find new trade outlets or possibly new strategic partners, more than any other industry. It must be stated that the majority of the Czech manufacturers successfully faced the demanding procedures of privatization and restructuring of defence and security industry, so that they are able to offer high-tech products and technologies to the Czech Republic Armed Forces, as well as to foreign customers.

The present structure of the Czech defence and security industry gives the opportunity to ensure the needs of the Czech Republic Armed Forces in important range of products and services. However it is not capable to provide all the required products and

services and therefore it maintains wide technical and commercial co-operation with the world's most reputable producers.

Membership of the Czech Republic in NATO and EU means both clear incorporation of our country into the group of economically developed countries with their system founded on observance of democratic principles and also the effective provision of our country's defence. And last but not least, it presents also the opportunity for the Czech defence and security industry to participate in international co-operation and competition.

The overall changes in the world, our firm incorporation into the European structures (EU, NATO) and eventual threats including the terrorism together with the old tradition, concrete requirements of Czech Armed Forces and security units and economical possibilities of our country were the leading aspects of the new orientation of our defence and security industry during last decades. The high value added products from electronics, very special chemical products, training and simulation systems and off-road and armoured trucks, small arms and small arms ammunition are the leading products of the defence and security industry at present. It is in our interest to be a member of the countries which are proud of their products because of their reliability, technical solution/design, progressivity and not only their low price. [18]

3.6 State budget – Czech ministry of Defence/Czech Army

3.6.1 Basic Defence Doctrine

The foundations of the Czech Republic defence and security are built on the NATO and EU membership and therefore the Czech Army prepares for implementation of its tasks in frame of NATO and EU forces. Multinational character of military operations requires high level of interoperability of Czech Army units with armed forces of NATO and EU states.

Czech Army Doctrine is common doctrine of all kinds of defence forces and services. It is a document which connects the policy and strategy level of defence control of country with command and control of Czech Army on the operational level.

The Czech Army doctrine defines and clarifies strategic and operational principles for preparation, deployment and assurance of individual types of operations, where the Czech Army can, either in frame of multinational alliance or independently, participate in accordance with the legislation of the country, international agreements and control acts of the Ministry of Defence. [19]

3.6.2 Conception of building the Czech Army

- | | |
|-------------------------|--|
| <u>Operational area</u> | <ul style="list-style-type: none">- first and foremost Asia (Afghanistan)- Western Balkan (Kosovo)- Africa in frame of Common European Security and Defence Policy – CESDP (DRC, Guinea-Bissau) [19] |
| <u>Potential enemy</u> | <ul style="list-style-type: none">- asymmetric enemy - does not conduct the direct and open confrontation- enemy with identical technology and capability= regular armed forces of one or more states |

Technology and IT area - communication and information systems necessary for securing the capabilities to operate in integrated communication and information environment (NEC – Network Enabled Capability)

Terrain and climatic conditions - all systems and equipment must be suitable for operations in various different conditions.

Time factor – different attitude to the settlement of the conflict situation and to the post-conflict stabilization.

The required Czech Army capabilities:

- Timely availability of the forces
- Effective intelligence services
- Deployment and mobility
- Effective deployment
- Effective command, control and connection
- Sustainability
- Resistance and protection of the forces
- Effective civil-military co-operation
- Fulfilment of other tasks in Czech Republic [19]

3.6.3 Particular parts of Czech Ministry of Defence budget

Departmental budget of the Ministry of Defence

FINANCIAL YEAR	Fact/Approved budget	Revenues of Ministry of Defence without extra-budgetary resources of the reserve fund (CZK mil.)	Expenditure of the Ministry of Defence without the transfer of inexhausted resources to the reserve fund (CZK mil.)	GDP (CZK bil.)	Share of expenditure of Ministry of Defence to GDP (%)	State budget expenditure (CZK bil.)	Share of expenditure of Ministry of Defence on State budget expenditure (%)
2005	Fact	3 353,9	58 445,00	2 920,00	2,00%	923	6,30%
2006	Fact	4 001,50	55 358,40	3 222,00	1,72%	1 021,00	5,40%
2007	Fact	3 787,8	54 948,80	3 535,00	1,55%	1 092,0	5,00%
2008	Fact	3 872,40	49 827,10	3 689,00	1,35%	1 107,00	4,50%
2009	Fact	3 316,40	51 823,90	3 627,00	1,43%	1 167,00	4,40%
2010	Fact	3167,9	47705,7	3693	1,29%	1157	4,10%
2011	Fact	3 801,00	43 785,20	3 743,00	1,17%	1 155,00	3,80%
2012	Fact	3 950,70	42 007,20	3 820,00	1,10%	1 152,00	3,60%
2013	Fact	3 654,00	40 765,30	3 855,00	1,06%	1 173,10	3,50%
2014	Approved budget	3 833,80	41 990,50	3 901,00	1,08%	1 211,30	3,50%
2015	Approved budget	3 568,10	43 783,10	4 216,00	1,04%	1 218,50	3,60%

Table 1, Source: Ministry of Defence of the Czech Republic

The table of Ministry of Defence budget development during last 10 years clearly shows that the absolute figures as well as the relative figures went down. In the beginning the relative value towards the GDP was 2% because it was an obligation of the Czech Republic as a member state of NATO (2% of GDP for defence expenditure is NATO regulation). Then the amounts were going slowly down because of the economic and financial crisis in the Czech Republic and in the world. Although the Czech economy started to develop positively (the absolute figures of GDP and expenditure of MOD also started to increase) the ratio of defence spending remained the same even slightly decreased. It is expected that because of the increasing danger of various threats towards our country and the Union the defence will need more funds to encounter these threats and the ration will go up.

Moreover during past decade the postponement of modernization and development projects resulted in large deficit which exceed unbelievable 80-90 billion CZK. This conservative estimate emanate from mid-term plans of Ministry of Defence of Czech Republic. Czech Army suffers from long-term instability due to conceptual cuts and inefficiency. [20]

3.6.4 Operational, short and long term planning

Medium term plan of activities and development of Ministry of Defence Department is the fundamental planning document, which forms material and resource base for all related planning procedures. Medium term plan connects tasks, targets and needs following from the obligations stipulated to the Ministry of Defence by the respective legal norms and strategic documents on one side and sources and financial means dedicated for defence on the other side.

Political – strategic task for defence planning is defined above all by Security Strategy of Czech Republic (dated 2011) and Defence Strategy of Czech Republic (dated 2012). This frame task which contains valid level of military aspirations is made more accurate every year by the Minister of Defence Directive for planning of the concrete planning period.

The main task of the defence planning is keeping and further development of military capabilities required for securing the most effective defence of the Czech Republic as per the constitution and valid laws and active participation in the system of collective defence and crisis control within NATO and EU (in frame of Alliance planning the tasks of building



the NATO defence forces). [21]

3.6.5 Important role of Czech foreign diplomacy

In the conditions of on-going globalization and high rate of Czech economy openness the prosperity of our country is very much dependent on the ability to push through its economic interests in the world.

In case of exports and imports of military equipment it is even more important because this trade, apart from the traditional business conditions, is also very much political issue.

The key role in this process plays economic diplomacy as one of the top priorities and un-separable part of the foreign policy of the government. It is a set of measures directed to the full and complete support of production, movement or exchange of goods, services, workforce and investments to and from abroad. Another substantial task is the creation of positive picture of the country in the world as modern, developed democratic country, reliable partner in commercial relations and suitable location for investment. The economic diplomacy plays also important role in formulation, pushing through and securing the interests of Czech Republic in EU.

In order to have the economic diplomacy really effective, it has to:

- Have clear vision and orientation, purposeful order and sufficient financial and human resources.
- Form active part of the foreign policy of the state.
- Act in partnership with the business sphere and on the basis of the actual demand of the Czech companies.
- Coordinate the activity among the respective ministries so that the presentation of the country and its economy is unified.

For implementation of its tasks the economic diplomacy uses relatively wide net of embassies, consulates, honorary consulates and other organizations like Czech Trade, Czech Invest, Czech Centres, Czech Tourism and also Czech Export Bank, EGAP (Export and Guarantee Insurance Company) etc. [22]

4. PRACTICAL PART

4.1 SWOT

Swot analysis is useful tool which define strengths, weaknesses, opportunities and threats of an organization or business. This method of swot analysis is to understand all sorts of situation in business where we take all information and separate into internal (Strengths and Weaknesses) and external (Opportunities and Threats) factors. [23]

<p>S (Strengths)</p> <ul style="list-style-type: none"> • Integral part of NATO structures • White book of Czech MOD • KVAČR (Conception of building the Czech Army) • State owned enterprises 	<p>W (Weaknesses)</p> <ul style="list-style-type: none"> • Lack of objectives for procurement and representation • Lack of analysis and evaluation of suppliers • Non-flexible decisions • Conservatism and non-willingness to changes
<p>O (Opportunities)</p>	<p>T (Threats)</p>
<ul style="list-style-type: none"> • Information technologies • Exchange rate of CZK development • Long term agreements • Direct procurement G to G • Government credits - financing 	<ul style="list-style-type: none"> • Political instability and corruption • Exchange rate of CZK development • Legislation of EU and law and order of CR • Negotiating power of suppliers • Economically weak suppliers

4.2 Analysis of Exports of military products from Czech Republic to selected countries

4.2.1 Input Data

In order to make the analysis as wide as possible and to get reliable results the choice of the countries for the concrete analysis in relation to the Czech Republic was motivated by several factors and representatives of the following groups have been chosen.

- Global position in the production and exports of military materials and services – USA, Germany
- Potential partners for exports from Czech Defence and Security Industry – Vietnam, Algeria, Egypt
- Neighbouring countries namely V4 (Visegrad Four) – Poland, Slovakia, Austria
- Overall military spending/procurement – Saudi Arabia, India.

USA					
YEAR	GDP (%)	EXCHANGE RATE (1 USD in CZK)	Military spending (US\$ m.)	Military spending as percent of GDP	Exports from CR (thousand EUR)
2005	3.30	23.898008	503353.00	3.80	13008.00
2006	2.70	22.587272	527660.00	3.80	9337.00
2007	1.80	20.312798	556961.00	3.80	10226.00
2008	-0.30	17.086409	621131.00	4.20	10368.00
2009	-2.80	19.035997	668567.00	4.60	9766.00
2010	2.50	19.093952	698180.00	4.70	11879.00
2011	1.60	17.682377	711338.00	4.60	13410.00
2012	2.30	19.569661	684780.00	4.20	31940.00
2013	2.20	19.556934	639704.00	3.80	28249.00
2014	2.40	20.751833	609914.00	3.50	33037.00
2015	-	24.596642	-	-	-

Table 2; Source: SIPRI Military Expenditure Database; The World Bank Data; USForex Foreign Exchange services; report of the Ministry of Industry and Trade for the year 2014

From the table it is clear that the last financial crisis which started in USA by end of the first decade of 21st century badly influenced the DGP and also the exports from the Czech Republic where the unfavourable exchange rate played its role. Military spending in

absolute figures is almost the same but goes slowly down from 2011 reflecting relative stability in the world. The same tendency is seen from the relative spending in relation to GDP. Czech exporters have to “fight” with the local administrative problems and offer only state of the art equipment.

ALGERIA					
YEAR	GDP (%)	EXCHANGE RATE (1 DZD in CZK)	Military spending (US\$ m.)	Military spending as percent of GDP	Exports from CR (thousand EUR)
2005	5.90	0.31887	2925.00	2.80	2265.00
2006	1.70	0.29669	3094.00	2.60	2213.00
2007	3.40	0.26941	3946.00	2.90	9339.00
2008	2.00	0.27531	5172.00	3.00	17221.00
2009	1.60	0.25585	5281.00	3.80	6651.00
2010	3.60	0.25402	5671.00	3.50	8961.00
2011	2.80	0.26663	8652.00	4.30	20130.00
2012	3.30	0.24300	9326.00	4.50	17774.00
2013	2.80	0.25623	10405.00	5.00	12781.00
2014	3.80	0.26223	11862.00	5.60	32938.00
2015	-	0.23384	-	-	-

Table 3; Source: SIPRI Military Expenditure Database; The World Bank Data; XE Exchange Rates; Report of the Ministry of Industry and Trade for the year 2014

Algeria’s military spending is slowly increasing and so is also the GDP. It shows that the economy (in principle based on crude oil and gas) was going well and that Algeria is one if not that only one country in North Africa with relative stable regime and development. Because of the problems in the neighbouring countries (e.g. Libya, Tunisia, Mali etc.) Algeria has to have well equipped and prepared military forces to defend its territory. That is why the figures of the relative military spending are on higher level and confirm this ideas. Algeria belongs to the traditional partners of Czech Defence and Security Industry and our exports are rising but more important there are a lot of future possibilities of co-operation.

GERMANY					
YEAR	GDP (%)	EXCHANGE RATE (1 EUR in CZK)	Military spending (US\$ m.)	Military spending as percent of GDP	Exports from CR (thousand EUR)
2005	0.70	29.729332	38054.00	1.30	1765.00
2006	3.70	28.34347	38092.00	1.30	3865.00
2007	3.30	27.73269	42552.00	1.20	5918.00
2008	1.10	24.981072	48081.00	1.30	4234.00
2009	-5.60	26.435679	47470.00	1.40	8756.00
2010	4.10	25.292198	46256.00	1.40	6026.00
2011	3.60	24.582025	48140.00	1.30	5990.00
2012	0.40	25.139554	46471.00	1.30	6132.00
2013	0.10	25.974393	47667.00	1.30	4817.00
2014	1.60	27.533484	46455.00	1.20	39456.00
2015	-	27.281206	-	-	-

Table 4; Source: SIPRI Military Expenditure Database; The World Bank Data; USForex Foreign Exchange services; Report of the Ministry of Industry and Trade for the year 2014

The GDP similarly like in USA was affected by the world financial crisis. From 2009 the decline is visible and only by middle of the second decade of this century these figures recorded certain increase mainly because of the deteriorating the security situation in Europe connected with the terrorists threats. Relative military spending and absolute figures are kept on almost linear level and declare the Germany's firm and stable attitude to the defence and security. Exports from the Czech Republic were on a stable level too with exception of the year 2014 and probably the following years will record some increase caused by illegal immigration and other problems of EU and overall security environment. The most sophisticated items produced in our country have chance to be placed on this extremely competitive market

SLOVAK REPUBLIK					
YEAR	GDP (%)	EXCHANGE RATE (1 EUR in CZK)	Military spending (US\$ m.)	Military spending as percent of GDP	Exports from CR (thousand EUR)
2005	6.40	29.729332	823.00	1.70	21,089.00
2006	8.50	28.34347	911.00	1.60	18,748.00
2007	10.80	27.73269	1,113.00	1.50	10,696.00
2008	5.70	24.981072	1,402.00	1.50	18,972.00
2009	-5.50	26.435679	1,343.00	1.50	21,613.00
2010	5.10	25.292198	1,130.00	1.30	10,874.00
2011	2.80	24.582025	1,061.00	1.10	8,143.00
2012	1.50	25.139554	1,015.00	1.10	15,634.00
2013	1.40	25.974393	963.00	1.00	17,939.00
2014	2.50	27.533484	988.00	1.00	23,282.00
2015	-	27.281206	-	-	-

Table 5; Source: SIPRI Military Expenditure Database; The World Bank Data; USForex Foreign Exchange services; Report of the Ministry of Industry and Trade for the year 2014

Slovakia adopted the euro on 1 January 2009, replacing its previous currency, the Slovak koruna. Slovak Republic was in the past a part of the former Czechoslovakia and has very similar position in the defence and security environment. That is why the data from the table are also similar taking into consideration that it was one third of the former Czechoslovakia (territory wise and population wise). The DGP is slowly increasing but the military spending (relatively as well as absolutely) is going down in the same ration as in our country. There are lot of possibilities of co-operation between our two countries, because the defence and security industries of both countries are still connected and show the slow but steady increase.

VIETNAM					
YEAR	GDP (%)	EXCHANGE RATE (1 VND in CZK)	Military spending (US\$ m.)	Military spending as percent of GDP	Exports from CR (thousand EUR)
2005	7.50	0.001511	1026.00	1.80	3728.00
2006	7.00	0.001413	1287.00	1.90	2747.00
2007	7.10	0.001263	1784.00	2.30	372.00
2008	5.70	0.001037	2138.00	2.20	1320.00
2009	5.40	0.001062	2401.00	2.30	2059.00
2010	6.40	0.001001	2672.00	2.30	5159.00
2011	6.20	0.000860	2687.00	2.00	4108.00
2012	5.20	0.000936	3361.00	2.20	32974.00
2013	5.40	0.000933	3727.00	2.20	43310.00
2014	6.00	0.000984	4251.00	2.30	13861.00
2015	-	0.001123		-	-

Table 6; Source: SIPRI Military Expenditure Database; The World Bank Data; USForex Foreign Exchange services; Report of the Ministry of Industry and Trade for the year 2014

Vietnam belongs to the countries where the socialist principles still prevail and the armed forces play very important role in the politics. Therefore the relative and absolute military spending is slowly rising. Because of some regional problems (South China Sea – Sprattley Islands etc.) it is expected that this trend will go on. For the Czech Defence and Security Industry it is a chance that the exports may be increasing further using also quite large community of the Vietnamese who studied and work in our country in the past. Since the Vietnamese armed forces are equipped with the former Warsaw Pact countries there are quite wide possibilities of mutual co-operation.

SAUDI ARABIA					
YEAR	GDP (%)	EXCHANGE RATE (1 SAR in CZK)	Military spending (US\$ m.)	Military spending as percent of GDP	Exports from CR (thousand EUR)
2005	7.30	6.39	25392.00	7.70	551.00
2006	5.60	6.02	29581.00	7.80	0.00
2007	6.00	5.42	35470.00	8.50	2578.00
2008	8.40	4.55	38223.00	7.40	0.00
2009	1.80	5.02	41267.00	9.60	4.00
2010	4.80	5.09	45245.00	8.60	8556.00
2011	10.00	4.72	48531.00	7.20	4637.00
2012	5.40	5.22	56498.00	7.70	3298.00
2013	2.70	5.21	67020.00	9.00	11291.00
2014	3.50	5.53	80762.00	10.80	70061.00
2015	-	6.56	-	-	-

Table 7; Source: SIPRI Military Expenditure Database; The World Bank Data; USForex Foreign Exchange services; Report of the Ministry of Industry and Trade for the year 2014

KSA (Kingdom of Saudi Arabia) is one of the biggest importers of military equipment and services in the world. Except the figures of DGP which go down (most probably because of the prices of crude oil) the expenditure in military field is rising, both absolutely and relatively. The relative military spending is the highest one and KSA is buying lot of military equipment from abroad including Czech Republic. Nevertheless the most important supplier to KSA has been for many decades USA. KSA is considered as “superpower” in the region of Middle East and Arab Peninsula and plays very important role in the politics in this region.

EGYPT					
YEAR	GDP (%)	EXCHANGE RATE (1 EGP in CZK)	Military spending (US\$ m.)	Military spending as percent of GDP	Exports from CR (thousand EUR)
2005	4.50	4.137908	2659.00	2.90	3443.00
2006	6.80	3.935920	2953.00	2.70	4656.00
2007	7.10	3.596636	3307.00	2.50	6177.00
2008	7.20	3.129926	3780.00	2.30	7124.00
2009	4.70	3.392361	4017.00	2.10	4191.00
2010	5.10	3.389458	4407.00	2.10	7750.00
2011	1.80	2.976336	4464.00	1.90	4477.00
2012	2.20	3.224667	4558.00	1.80	5595.00
2013	2.10	2.846512	4360.00	1.70	24320.00
2014	2.20	2.930930	4961.00	1.80	19857.00
2015	-	3.19037	-	-	-

Table 8; Source: SIPRI Military Expenditure Database; The World Bank Data; USForex Foreign Exchange services; Report of the Ministry of Industry and Trade for the year 2014

Egypt is most populated country in North Africa and went through several changes during so called “Arab Spring”. Now it looks more stable, but still it is quite fragile and the atmosphere is coming to a better stage slowly. Because of the economic problems and certain limitations in procurement of military equipment from abroad the military spending was on lower level and although the armed forces play in the Egyptian politics decisive role return to the previous military co-operation level (including so called FMS – Foreign Military Support from USA) will take some time. Egypt like Vietnam and Algeria always was traditional partner to the Czechoslovak and then Czech producers who enjoy very good reputation. As and when the situation in Egypt improves further there will be lot of space for mutual co-operation.

POLAND					
YEAR	GDP (%)	EXCHANGE RATE (1 PLN in CZK)	Military spending (US\$ m.)	Military spending as percent of GDP	Exports from CR (thousand EUR)
2005	3.50	7.410804	5896.00	1.90	4556.00
2006	6.20	7.280694	6619.00	1.90	6271.00
2007	7.20	7.325783	8589.00	2.00	3149.00
2008	3.90	7.106560	9349.00	1.80	7648.00
2009	2.60	6.118601	7904.00	1.80	4502.00
2010	3.70	6.333797	8790.00	1.80	4450.00
2011	5.00	5.980443	9455.00	1.80	12309.00
2012	1.60	6.012872	8987.00	1.80	12327.00
2013	1.30	6.191929	9276.00	1.80	12630.00
2014	3.30	6.578958	10499.00	1.90	23000.00
2015	-	6.525056	-	-	-

Table 9; Source: SIPRI Military Expenditure Database; The World Bank Data; USForex Foreign Exchange services; Report of the Ministry of Industry and Trade for the year 2014

Poland belongs to the larger countries in EU with quite a big defence budget. Poland is also one of the V4 countries (Poland, Czech Republic, Slovak Republic, and Hungary) and forms un-separable part of NATO and other European agencies. The GDP after some stagnation following from the world financial crisis recorded interesting increase. The military spending is relatively stable and in absolute figures represents substantial amount of money spent on military items. Relative military spending is very stable and confirms the Polish Government efforts to keep their armed forces on a highest possible level and also to fulfil the NATO obligations (keep the defence budget on the level of 2% from GDP as much as possible). Although the Polish Defence Industry is the competition to the Czech Defence and Security Industry and the co-operation among the V4 does not have too much positive results there is some increase in military exports to Poland from Czech Republic and still wide potential for further improvement.

AUSTRIA					
YEAR	GDP (%)	EXCHANGE RATE (1 EUR in CZK)	Military spending (US\$ m.)	Military spending as percent of GDP	Exports from CR (thousand EUR)
2005	2.10	29.729332	2686.00	0.90	7.00
2006	3.40	28.343470	2640.00	0.80	956.00
2007	3.60	27.732690	3500.00	0.90	2442.00
2008	1.50	24.981072	3747.00	0.90	1868.00
2009	-3.80	26.435679	3335.00	0.80	11584.00
2010	1.90	25.292198	3218.00	0.80	31348.00
2011	2.80	24.582025	3410.00	0.80	23278.00
2012	0.80	25.139554	3187.00	0.80	49079.00
2013	0.30	25.974393	3229.00	0.80	12604.00
2014	0.40	27.533484	3257.00	0.70	3669.00
2015	-	27.281206	-	-	-

Table 10; Source: SIPRI Military Expenditure Database; The World Bank Data; USForex Foreign Exchange services; Report of the Ministry of Industry and Trade for the year 2014

Austria in principal belongs to the neutral country and as such their military spending should not be as big as in the other countries. But in absolute figures it is quite high even higher than e.g. Slovakia. On the other hand the GDP is going rapidly down. Austria has bad historical experiences and keeps its military industry on very high level. The exports from Czech Republic after the mayor contract for Armoured Personal Carriers “Pandur” (deliveries from 2010 to 2012/2013) returned back to the past average figures. But still there are lot of possibilities of mutual co-operation with our neighbouring state.

INDIA					
YEAR	GDP (%)	EXCHANGE RATE (1 INR in CZK)	Military spending (US\$ m.)	Military spending as percent of GDP	Exports from CR (thousand EUR)
2005	9.30	0.544065	23072.00	2.80	3793.00
2006	9.30	0.499584	23952.00	2.50	7024.00
2007	9.80	0.489567	28255.00	2.30	39457.00
2008	3.90	0.390476	33002.00	2.60	20430.00
2009	8.50	0.393193	38722.00	2.90	17097.00
2010	10.30	0.418098	46090.00	2.70	29382.00
2011	6.60	0.380459	49634.00	2.60	12464.00
2012	5.10	0.366848	47217.00	2.50	6220.00
2013	6.90	0.335708	47403.00	2.40	426.00
2014	7.30	0.340127	49968.00	2.40	2803.00
2015		0.383852	-	-	-

Table 11; Source: SIPRI Military Expenditure Database; The World Bank Data; USForex Foreign Exchange services; Report of the Ministry of Industry and Trade for the year 2014

As far as the population it concerns India is considered the “largest democracy of the world” which plays almost decisive (together with China and Pakistan) role in the Indian subcontinent and Far East (India belongs to the group of so called BRICS most developing countries – B-Brazil, R-Russian Federation, I-India, C-China, S-South Africa). India’s economy is improving fast and its GDP is rising. The military spending in absolute and relative figures is practically stable and represents big amount of money spent on military procurement. The Indian policy of: “make India” i.e. always the local production as first priority brings the exports to India to decreasing tendency. Indians are concentrated on transfer of technologies and KNOW HOW and imports are slowing down including the exports from Czech Republic. But the Indian market is so large that still it is one of the most potential markets for Czech Defence and Security Industry.

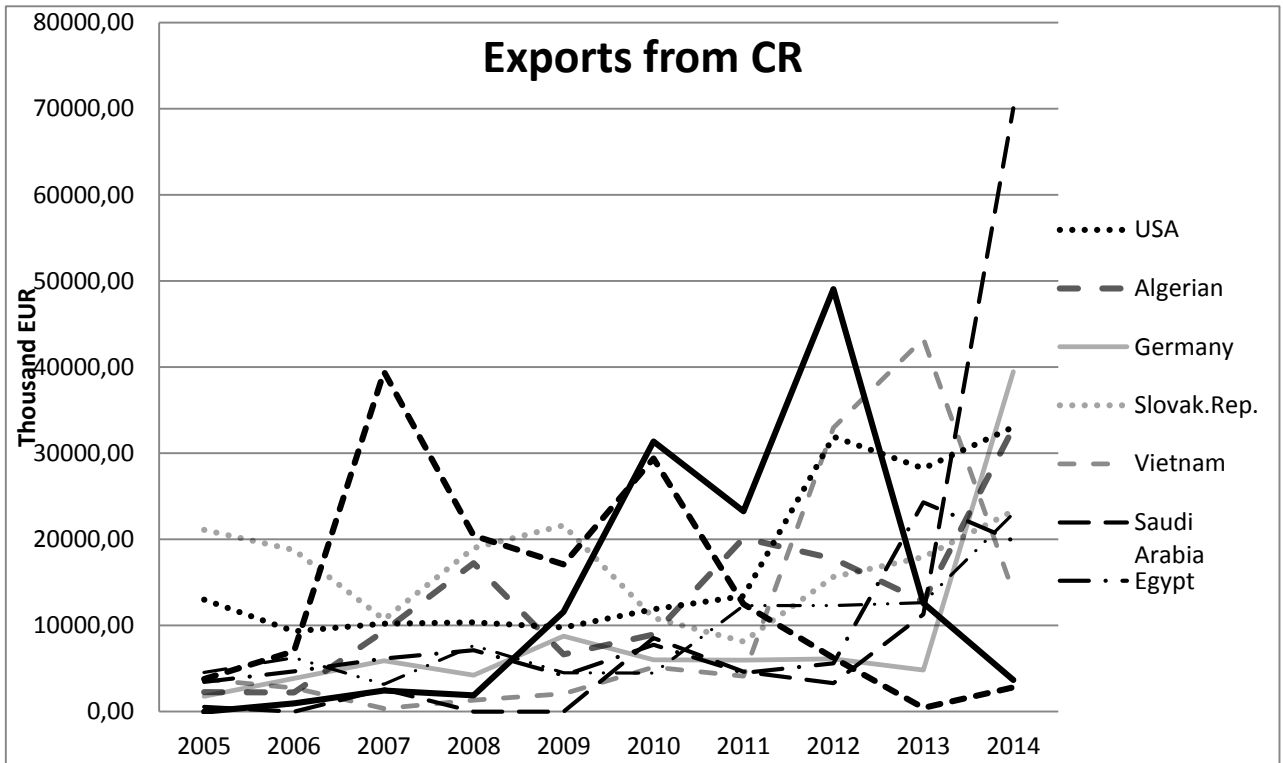


Figure 1 Exports from CR; Source: Own processing, Report of the Ministry of Industry and Trade for the year 2014

Although this graph looks very strange it reflects the concrete situation in the different markets and changes which influenced in all directions the small and relatively predisposed Czech exports.

India – traditional partner of Czech Republic in defence co-operation records slow and steady decrease mainly because of its policy: “Make India” which means that Indians want to become independent on the foreign suppliers (bad experiences) and produce the items locally.

Big “jumps” of the exports to Austria (one of the European neutral states) are connected with the mayor contract for “Pandur” APC (Armoured Personal Carrier) and exchange of goods and services connected with this contract.

Saudi Arabia biggest increase confirms that this country produces only very few items locally and buys most of the required equipment from abroad. During last few years when the security situation in the Arab Peninsula deteriorated heavily (ISIS, Al-Qaeda) the procurement increased substantially including the exports from Czech Republic.

Vietnam also recorded favourable results influenced by several important contracts which has not repeat so far (probably because of the recent general elections in Vietnam) but with great chance to be extended.

Otherwise the lines of the rest of individual countries show increase during last years which is without any doubt the result of the deterioration of security situation in the world and namely Middle East, North Africa, Arab Peninsula, South China Sea countries etc.

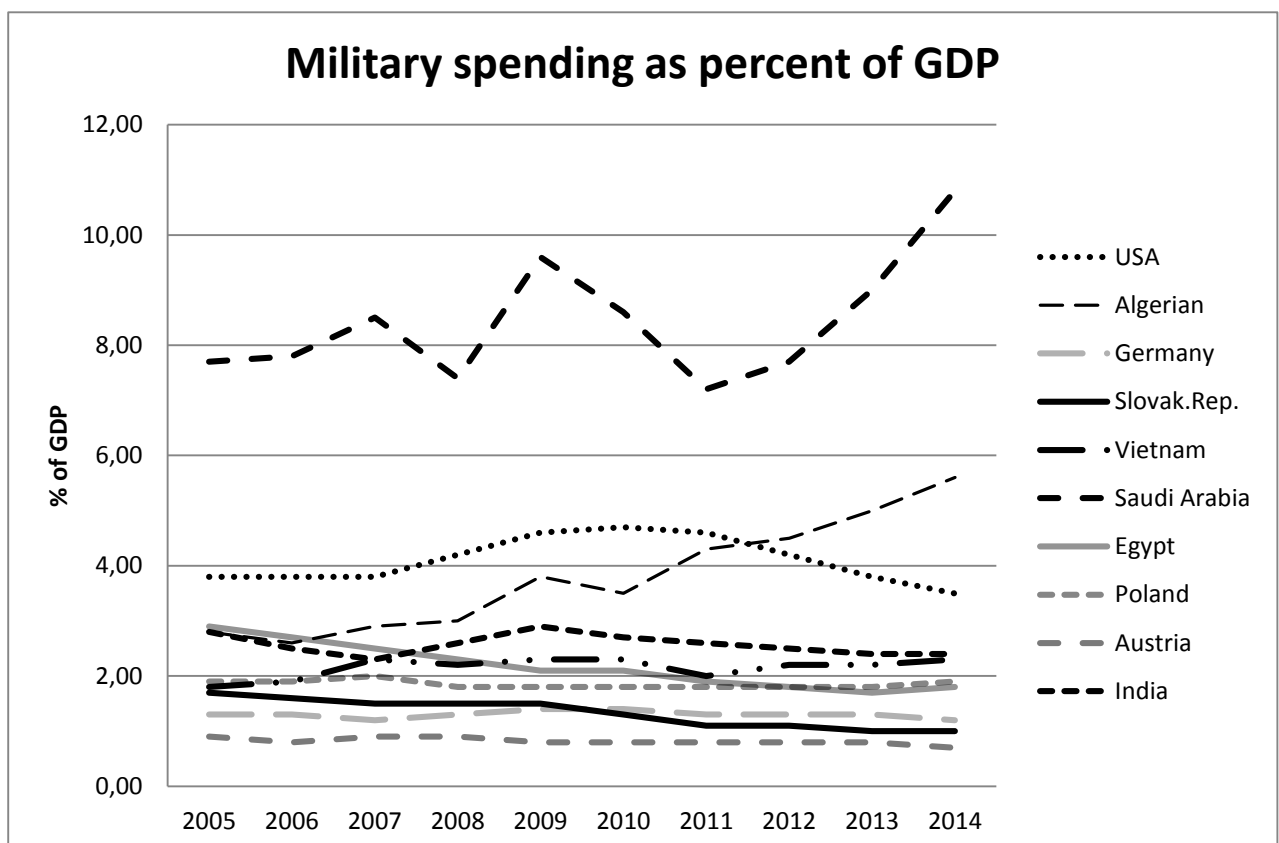


Figure 2 Military spending as percent of GDP; Source: Own processing, The World Bank Data

With one substantial exception of development in India (one of the biggest buyers of military equipment in the world – not necessarily from abroad but also from local producers who's participation is increasing) and higher values in case of USA (traditional buyer and seller of military equipment) and Algeria all other countries oscillate around 2% of military spending from GDP. This is the figure used also within the NATO countries as a standard

but which is not followed by many countries Czech Republic including. Again it shows where (to which country or region) efforts of our exporters have to be directed.

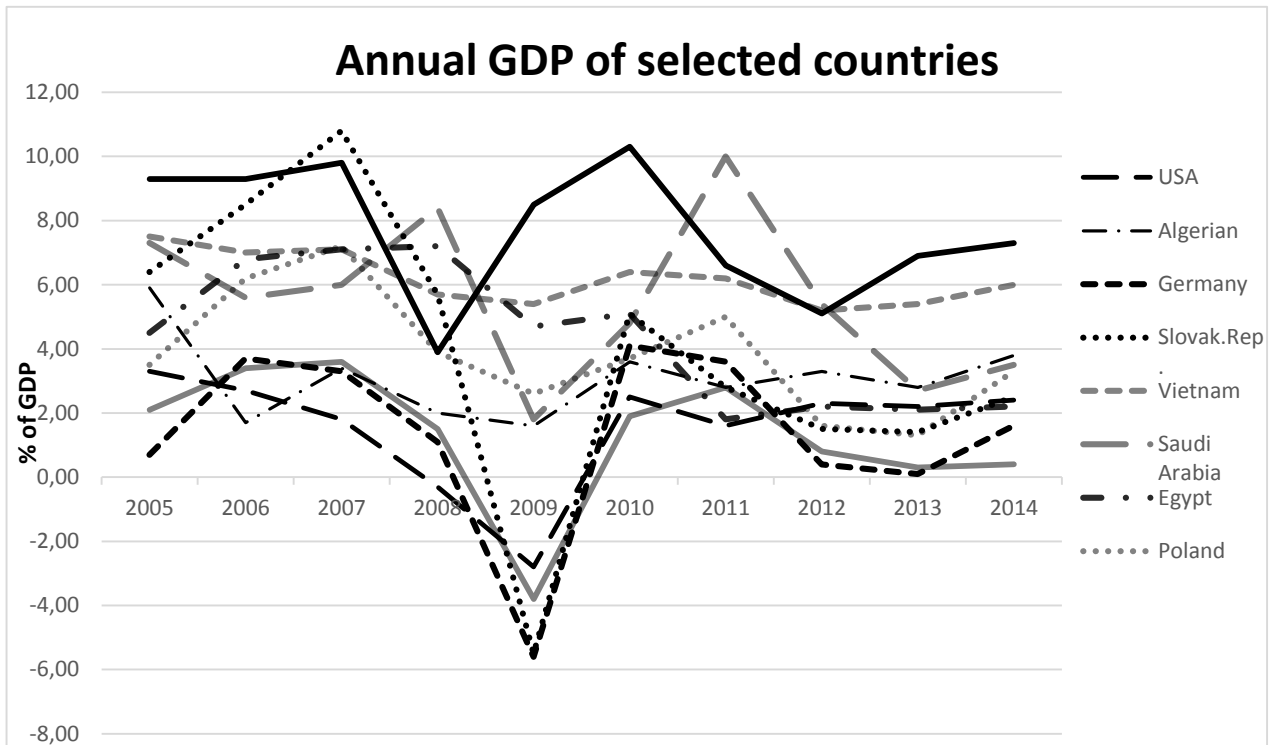


Figure 3 Annual GDP of selected countries; Source: Own processing, The World Bank Data

Quite deep decrease of GDP of most the countries during the financial and economic crisis 2007-2009 (USA, Germany, Slovak Rep., Austria), i. e. well developed countries. This development has also negative influence on the military expenditure as it is shown in other tables of this thesis.

Relative stable development even increase of GDP of the non EU countries (including USA) where the financial and economic crisis had not such bad impact (Vietnam, India, Algeria) i.e. countries with different style of government. These countries should be the priorities in the diversification of our foreign trade efforts.

4.3 Regression analysis

In this chapter, I try to estimate the relationship between exports from Czech Republic and a series of variables, such as percentage change in GDP, exchange rate, military spending and military spending as % of GDP in ten selected countries over the past decade.

Regression analysis is a widely used statistical technique for modelling the relation among various variables. This model focuses on the one dependent variable and one or more independent variables. It helps us to understand how the dependent variable changes when one independent variable varies and the others are fixed. [24]

Sample linear regression model: $y = \beta_0 + \beta_1 x_1 + \varepsilon$

Multiple linear regression model: $y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \varepsilon$

I estimated the following regression model: $y = a_0 + a_1 x_1 + a_2 x_2 + a_3 x_3 + a_4 x_4$

Where:

y = exports from Czech Republic (dependent variable)

x_1 = % change GDP

x_2 = exchange rate

x_3 = military spending

x_4 = military spending % GDP

If $p < 0.05$, the coefficients are considered statistically significant

Regression model for variables in USA:

<i>Regression Statistics</i>	
Multiple R	0.956637194
R Square	0.915154721
Adjusted R Square	0.847278498
Standard Error	3826.236103
Observations	10

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-44141.09213	39839.93354	-1.107960988	0.318309391	-146552.9016	58270.71736	-146552.9016	58270.71736
X Variable 1	-148.0791935	935.8374153	-0.158231752	0.880466298	-2553.725854	2257.567467	-2553.725854	2257.567467
X Variable 2	2480.862838	1204.086575	2.060369155	0.094388865	-614.3402394	5576.065915	-614.3402394	5576.065915
X Variable 3	0.217997587	0.037476224	5.81695709	0.002119744	0.121661886	0.314333288	0.121661886	0.314333288
X Variable 4	-30157.41971	4921.959719	-6.127116317	0.001680471	-42809.71995	-17505.11946	-42809.71995	-17505.11946

$$y = a_0 + (-148.0791) x_1 + (2480.8628) x_2 + (0.2179) x_3 + (-30157.4197) x_4$$

In the table above, we can see that the coefficients x_1 and x_2 are not significant ($p > 0.05$). However, the effects of x_3 and x_4 on export from CR to USA are statistically different from zero. As expected, the sign of x_3 coefficient is positive, i.e. if the military spending in USA increases, the export from CR increases as well, albeit not to a large extent ($x_1 < 1$). As regards the last coefficient, x_4 , the results of the regression do not comply with my expectations, i.e., USA will increase their military spending but import will not be from Czech Republic.

Regression model for variables in Algeria:

<i>Regression Statistics</i>	
Multiple R	0.859468929
R Square	0.73868684
Adjusted R Square	0.529636311
Standard Error	6428.11531
Observations	10

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	190.3308645	45573.8697	0.004176316	0.996829296	-116961.0308	117341.6925	-116961.0308	117341.6925
X Variable 1	88.51399218	2005.194276	0.044142352	0.96649959	-5066.001991	5243.029975	-5066.001991	5243.029975
X Variable 2	34914.50118	145092.471	0.240636202	0.819392582	-338057.5693	407886.5717	-338057.5693	407886.5717
X Variable 3	5.232094969	3.342972809	1.56510246	0.178332023	-3.361290212	13.82548015	-3.361290212	13.82548015
X Variable 4	-8306.286378	10369.92345	-0.800997849	0.459486452	-34963.02323	18350.45048	-34963.02323	18350.45048

$$y = a_0 + (-88.51399218) x_1 + (34914.50118) x_2 + (5.232094969) x_3 + (-8306.286378) x_4$$

In this table there are not any of independent coefficients, which are statistically significant because of the p-values not being below the 0.05 threshold. It means Algeria is not so much important in terms of export from Czech Republic.

Regression model for variables in Germany:

<i>Regression Statistics</i>	
Multiple R	0.79680003
R Square	0.634890288
Adjusted R Square	0.342802518
Standard Error	8885.691307
Observations	10

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-478516.5127	302121.9934	-1.583851964	0.174078535	-1255145.821	298112.7958	-1255145.821	298112.7958
X Variable 1	1648.803667	1643.923308	1.002968726	0.361915065	-2577.035728	5874.643062	-2577.035728	5874.643062
X Variable 2	10567.1257	5399.12926	1.957190722	0.107674397	-3311.777908	24446.0293	-3311.777908	24446.0293
X Variable 3	4.997681101	2.254787147	2.21647578	0.077470803	-0.798433783	10.79379598	-0.798433783	10.79379598
X Variable 4	-15585.21124	63675.30537	-0.244760683	0.816369333	-179267.7946	148097.3721	-179267.7946	148097.3721

$$y = a_0 + (1648.803667) x_1 + (10567.1257) x_2 + (4.997681101) x_3 + (-15585.21124) x_4$$

This table shows us the coefficient x_3 is ostensibly approaching p-value of 0,05, i.e. the coefficient x_3 (military spending) is almost statistically significant. Other coefficients are not, however, statistically significant. According to the estimated Regression results, Germany is quite important in terms of government spending on military products from Czech Republic.

Regression model for variables in Slovak Republic:

<i>Regression Statistics</i>	
Multiple R	0.777208135
R Square	0.604052485
Adjusted R Square	0.287294473
Standard Error	4377.328156
Observations	10

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-72448.02106	46989.59627	-1.541788541	0.183763101	-193238.6237	48342.58157	-193238.6237	48342.58157
X Variable 1	-580.5409281	388.5278424	-1.494206759	0.195351596	-1579.283542	418.2016861	-1579.283542	418.2016861
X Variable 2	3233.765567	1650.608344	1.959135599	0.107406706	-1009.258261	7476.789394	-1009.258261	7476.789394
X Variable 3	11.73378833	13.70529171	0.856150207	0.431022656	-23.49678559	46.96436224	-23.49678559	46.96436224
X Variable 4	-5357.333789	9590.700184	-0.558596733	0.600527202	-30011.01347	19296.34589	-30011.01347	19296.34589

$$y = a_0 + (-580.5409281) x_1 + (3233.765567) x_2 + (11.73378833) x_3 + (-5357.333789) x_4$$

In this regression table, there are not any coefficients, which are statistically significant provided $p < 0.05$ is considered statistically significant. Therefore, the Slovak Republic is not an important importer of Czech military goods.

Regression model for variables in Vietnam:

<i>Regression Statistics</i>	
Multiple R	0.808811835
R Square	0.654176585
Adjusted R Square	0.377517853
Standard Error	11832.21731
Observations	10

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	66888.32272	90774.82866	0.736859807	0.494308167	-166455.803	300232.4484	-166455.803	300232.4484
X Variable 1	-10939.03212	8796.233305	-1.243604136	0.268771742	-33550.46968	11672.40543	-33550.46968	11672.40543
X Variable 2	39905512.47	38556812.39	1.034979553	0.348116566	-59207929.1	139018954	-59207929.1	139018954
X Variable 3	13.93907213	6.976500408	1.998003485	0.102199733	-3.994593094	31.87273736	-3.994593094	31.87273736
X Variable 4	-31358.70834	27948.32258	-1.122024703	0.312824698	-103202.1587	40484.74201	-103202.1587	40484.74201

$$y = a_0 + (-10939.03212) x_1 + (39905512.47) x_2 + (13.93907213) x_3 + (-31358.70834) x_4$$

This table gives us the same results as in the table for Slovak Republic. There are not any coefficients, which are statistically significant. $P < 0.05$

Regression model for variables in Saudi Arabia:

Regression Statistics	
Multiple R	0.979181959
R Square	0.958797309
Adjusted R Square	0.925835157
Standard Error	5833.07449
Observations	10

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-264867.8014	36766.40516	-7.204071223	0.000802952	-359378.8547	-170356.7481	-359378.8547	-170356.7481
X Variable 1	6030.83839	1296.962665	4.6499707	0.005582273	2696.889722	9364.787058	2696.889722	9364.787058
X Variable 2	10226.36945	3869.939832	2.64251381	0.045837309	278.3724124	20174.36649	278.3724124	20174.36649
X Variable 3	0.686088294	0.164838416	4.1621869	0.008805404	0.262357657	1.109818931	0.262357657	1.109818931
X Variable 4	18387.56469	3509.920553	5.238740995	0.003357341	9365.026671	27410.10271	9365.026671	27410.10271

$$y = a_0 + (6030.83839) x_1 + (10226.36945) x_2 + (0.686088294) x_3 + (18387.56469) x_4$$

In Saudi Arabia regression table, we can see, that coefficients x_3 and x_4 are statistically significant. According to my estimated regression model, x_3 and x_4 are positive. i.e. if military spending and military spending as % of GDP increase, the export from CR increases as well. Then, Saudi Arabia is important for Czech Republic.

Regression model for variables in Egypt:

Regression Statistics	
Multiple R	0.66371919
R Square	0.440523164
Adjusted R Square	-0.007058305
Standard Error	7251.766812
Observations	10

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	83843.37219	89627.57959	0.935463978	0.392492908	-146551.6559	314238.4002	-146551.6559	314238.4002
X Variable 1	-674.8741314	1780.475738	-0.379041465	0.720219978	-5251.732722	3901.98446	-5251.732722	3901.98446
X Variable 2	-12246.90572	16392.64111	-0.747097776	0.488626402	-54385.5312	29891.71976	-54385.5312	29891.71976
X Variable 3	-5.130018376	11.0851253	-0.462783977	0.662961948	-33.62524012	23.36520337	-33.62524012	23.36520337
X Variable 4	-4948.451912	28921.50847	-0.171099371	0.870854331	-79293.55625	69396.65242	-79293.55625	69396.65242

$$y = a_0 + (-674.8741314) x_1 + (-12246.90572) x_2 + (-5.130018376) x_3 + (-4948.451912) x_4$$

In this regressin table of Egypt, there are not any coefficients, which could be considered statistically significant. It means that Egypt is not so much important in terms of export from Czech Republic.

Regression model for variables in Poland:

<i>Regression Statistics</i>	
Multiple R	0.772100953
R Square	0.596139881
Adjusted R Square	0.273051786
Standard Error	5204.256061
Observations	10

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-73356.67239	63600.25065	-1.153402253	0.300883648	-236846.3214	90132.97666	-236846.3214	90132.97666
X Variable 1	-1549.336977	1313.564843	-1.17949029	0.291262434	-4925.962903	1827.288949	-4925.962903	1827.288949
X Variable 2	-711.9748676	5224.52767	-0.136275452	0.896920428	-14142.0508	12718.10106	-14142.0508	12718.10106
X Variable 3	2.890718967	1.523758711	1.897097582	0.116295678	-1.026227498	6.807665432	-1.026227498	6.807665432
X Variable 4	36984.74178	41132.31374	0.899165119	0.409775347	-68749.23678	142718.7203	-68749.23678	142718.7203

$$y = a_0 + (-1549.336977) x_1 + (-711.9748676) x_2 + (2.890718967) x_3 + (36984.74178) x_4$$

In this table, there are not any coefficients statistically significant if $p < 0.05$ is considered statistically significant. It means Poland is not so much important in term of export from Czech Republic.

Regression model for variables in Austria:

<i>Regression Statistics</i>	
Multiple R	0.798011395
R Square	0.636822186
Adjusted R Square	0.346279935
Standard Error	13142.04542
Observations	10

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	387989.8847	139874.8118	2.773836688	0.039186873	28430.23422	747549.5351	28430.23422	747549.5351
X Variable 1	-334.240688	2261.52849	-0.147794153	0.888280336	-6147.684745	5479.203369	-6147.684745	5479.203369
X Variable 2	-10343.34297	3819.548913	-2.708001182	0.042377166	-20161.80603	-524.8799154	-20161.80603	-524.8799154
X Variable 3	-30.81974451	19.43115838	-1.586099187	0.173575466	-80.7691273	19.12963827	-80.7691273	19.12963827
X Variable 4	321.3051808	81017.13977	0.003965891	0.996989052	-207939.8827	208582.493	-207939.8827	208582.493

$$y = a_0 + (-334.240688) x_1 + (-10343.34297) x_2 + (-30.81974451) x_3 + (321.3051808) x_4$$

In the regression table above, we can see that coefficient x_2 , exchange rate is statistically significant. The sign of x_2 is negative, i.e. if the exchange rate between CZK and EUR increases, then the export from CR decrease. Coefficients x_1 , x_3 and x_4 are not statistically significant.

Regression model for variables in India:

<i>Regression Statistics</i>	
Multiple R	0.360162714
R Square	0.12971718
Adjusted R Square	-0.566509075
Standard Error	15946.03043
Observations	10

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	23313.52635	137850.4188	0.169121912	0.872329877	-331042.2563	377669.309	-331042.2563	377669.309
X Variable 1	1930.503226	3761.649664	0.513206544	0.629670388	-7739.125073	11600.13152	-7739.125073	11600.13152
X Variable 2	-4387.302607	232060.0747	-0.018905892	0.98564742	-600916.7153	592142.1101	-600916.7153	592142.1101
X Variable 3	-0.145022923	1.286136349	-0.112758591	0.914609199	-3.45114166	3.161095815	-3.45114166	3.161095815
X Variable 4	-6547.685054	28866.51435	-0.226826314	0.829540854	-80751.4225	67656.05239	-80751.4225	67656.05239

$$y = a_0 + (1930.503226) x_1 + (-4387.302607) x_2 + (-0.145022923) x_3 + (-6547.685054) x_4$$

This table shows us there are not any coefficients, which are statistically significant if $p < 0.05$ is considered statistically significant. It means India is not so much important in terms of export from Czech Republic.

5. CONCLUSION

This thesis pointed out that the export and import of military equipment and services is a standard part of the country's economy and, of course, substantial part of its security and stability. It is quite sensitive and complicated matter influenced not only by the economic factors but also by the political reasons and it is not easy to fully understand it all. The world seems to be mature, but the wars, regional conflicts and other dangerous threats are still here and moreover they are increasing in numbers, scales and varieties. That is why the military equipment and services have to be used and countries need more and more sophisticated and purpose oriented defence and security systems. For the Czech Republic as the export oriented country on one side and as the member of NATO alliance and EU community on the other side the foreign trade with the high added value military equipment and services plays very important role in its economy policy. Therefore it is worthwhile to study it, analyse it and its development and to find out the most attractive "value for money" possibilities.

From the regression analysis, the following results have been inferred. Only USA and Saudi Arabia have influence on export from CR. Main factors are military spending and military spending as % of GDP. As it was already mentioned, USA's statistical verification of military spending as % of GDP seems to be nonsense, i.e. if military spending as % of GDP decreases, the export from CR decreases. One of the possible explanations can be found in the fact that USA military spending will increase but they will not purchase military equipment from abroad (including CR) and will rather procure more military equipment from big local manufacturers (Lockheed Martin, Boeing, General Dynamics etc.). The Kingdom of Saudi Arabia has a positive sign for all coefficients, which means the Kingdom of Saudi Arabia verifies the model but it is important to remark that merely military spending and military spending as % GDP are important for export.

Germany has a small share of influence on the export and in Austria, the increase in exchange rate between EUR and CZK has an adverse effect on export of military goods from CR, which is counterintuitive, indeed. It is caused by the vigorous difference of export from CR in the years 2009 – 2014, i.e. according to my gained information. In the year 2014, Austria did not purchase military goods from CR, although they have had the best course for this trade. Other countries of this analysis do not have any significant effect on export.

The outcome of the regression analysis is, therefore, the Kingdom of Saudi Arabia has the most important role for Czech Republic as one of the biggest importers of military equipment and services.

6. LIST OF RESOURCES

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9. LIST OF ABBREVIATIONS

CR – Czech Republic

USA – United States of America

SVM – Seznam vojenského materiálu (List of Defence equipment)

USD – US Dollar

EUR – Euro

PLN – Polish Zloty

INR – Indian Rupee

DZD – Algerian Dinar

VND – Vietnamese Dong

SAR – Saudi Arabian Riyal

EGP – Egyptian Pound

GDP – Gross Domestic Product

KSA - Kingdom of Saudi Arabia

WA - Wassenaar Arrangement

AG - Australia Group

NSG - Nuclear Suppliers Group

MTCR - Missile Technology Control Regime

NATO - North Atlantic Treaty Organization

EU – European Union

BRICS - Brazil, Russia, India, China and South Africa

V4 - alliance of four Central European states– Czech Republic, Hungary, Poland and Slovakia

MOU – Memorandum of Understanding

MIT - Ministry of Industry and Trade

UN – United Nations

ATT – The Arms Trade Treaty

ISIS - Islamic State of Iraq and Syria

MOD – Ministry of Defence

EGAP – Export and Guarantee Insurance Company

FMS – Foreign Military Support from USA

SWOT – Strengths, Weaknesses, Opportunities, Threats

APC – Armoured Personal Carrier

G to G – Government to government

KVAČR – Koncepce výroby armády České republiky (Conception of building the Czech Army)

10. APPENDIX

Exports from CR (thousand EUR)										
Years	USA	Algeria	Germany	Slovak Rep.	Vietnam	Saudi Arabia	Egypt	Poland	Austria	India
2005	13008.00	2265.00	1765.00	21,089.00	3728.00	551.00	3443.00	4556.00	7.00	3793.00
2006	9337.00	2213.00	3865.00	18,748.00	2747.00	0.00	4656.00	6271.00	956.00	7024.00
2007	10226.00	9339.00	5918.00	10,696.00	372.00	2578.00	6177.00	3149.00	2442.00	39457.00
2008	10368.00	17221.00	4234.00	18,972.00	1320.00	0.00	7124.00	7648.00	1868.00	20430.00
2009	9766.00	6651.00	8756.00	21,613.00	2059.00	4.00	4191.00	4502.00	11584.00	17097.00
2010	11879.00	8961.00	6026.00	10,874.00	5159.00	8556.00	7750.00	4450.00	31348.00	29382.00
2011	13410.00	20130.00	5990.00	8,143.00	4108.00	4637.00	4477.00	12309.00	23278.00	12464.00
2012	31940.00	17774.00	6132.00	15,634.00	32974.00	3298.00	5595.00	12327.00	49079.00	6220.00
2013	28249.00	12781.00	4817.00	17,939.00	43310.00	11291.00	24320.00	12630.00	12604.00	426.00
2014	33037.00	32938.00	39456.00	23,282.00	13861.00	70061.00	19857.00	23000.00	3669.00	2803.00

Source: Report of the Ministry of Industry and Trade for the year 2014

Military spending as % of GDP										
Years	USA	Algerian	Germany	Slovak Rep.	Vietnam	Saudi Arabia	Egypt	Poland	Austria	India
2005	3.80	2.80	1.30	1.70	1.80	7.70	2.90	1.90	0.90	2.80
2006	3.80	2.60	1.30	1.60	1.90	7.80	2.70	1.90	0.80	2.50
2007	3.80	2.90	1.20	1.50	2.30	8.50	2.50	2.00	0.90	2.30
2008	4.20	3.00	1.30	1.50	2.20	7.40	2.30	1.80	0.90	2.60
2009	4.60	3.80	1.40	1.50	2.30	9.60	2.10	1.80	0.80	2.90
2010	4.70	3.50	1.40	1.30	2.30	8.60	2.10	1.80	0.80	2.70
2011	4.60	4.30	1.30	1.10	2.00	7.20	1.90	1.80	0.80	2.60
2012	4.20	4.50	1.30	1.10	2.20	7.70	1.80	1.80	0.80	2.50
2013	3.80	5.00	1.30	1.00	2.20	9.00	1.70	1.80	0.80	2.40
2014	3.50	5.60	1.20	1.00	2.30	10.80	1.80	1.90	0.70	2.40

Source: The World Bank Data

GDP (%)										
Years	USA	Algerian	Germany	Slovak Rep.	Vietnam	Saudi Arabia	Egypt	Poland	Austria	India
2005	3.30	5.90	0.70	6.40	7.50	7.30	4.50	3.50	2.10	9.30
2006	2.70	1.70	3.70	8.50	7.00	5.60	6.80	6.20	3.40	9.30
2007	1.80	3.40	3.30	10.80	7.10	6.00	7.10	7.20	3.60	9.80
2008	-0.30	2.00	1.10	5.70	5.70	8.40	7.20	3.90	1.50	3.90
2009	-2.80	1.60	-5.60	-5.50	5.40	1.80	4.70	2.60	-3.80	8.50
2010	2.50	3.60	4.10	5.10	6.40	4.80	5.10	3.70	1.90	10.30
2011	1.60	2.80	3.60	2.80	6.20	10.00	1.80	5.00	2.80	6.60
2012	2.30	3.30	0.40	1.50	5.20	5.40	2.20	1.60	0.80	5.10
2013	2.20	2.80	0.10	1.40	5.40	2.70	2.10	1.30	0.30	6.90
2014	2.40	3.80	1.60	2.50	6.00	3.50	2.20	3.30	0.40	7.30

Source: The World Bank Data

