

CZECHOSLOVAK AND CZECH REPUBLIC WEAPON PRODUCTION AND ECONOMIC SECURITY IN HISTORIC PERSPECTIVE

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Abstract

The main aim of this article is to describe the historical development of the weapon production and defence industrial base of Czechoslovakia and the Czech Republic, simultaneously the authors try to point out the importance of weapon production and defence industrial base as a component of the economic security of a state. The article is divided into three parts; each part delivers a picture of the extent, structure and position of weapon production and the defence industrial base in separate timeline phases of both the Czechoslovak and Czech nation. The first period shows Czechoslovakia as an important representative of the international arms trade. The second period characterizes Czechoslovak weapon production under the condition of the strong influence of the Warsaw pact and the Council for Mutual Economic Assistance. The third part describes Czech arms production during dynamic changes after the cessation of the bi-polar system. In the conclusion of the article, the authors underline the idea of the importance of weapon production as the tool of economic security.

Key words: Weapon Production, Economic Security, Defence Industrial Base, Czechoslovakia, Czech Republic

Introduction

After World War I, hardly any country built its armed forces with such difficulties as the Czechoslovak Republic did. The building up of the defence industry had also to cope with these difficulties. After the inception of Czechoslovakia in 1918, there was a great number of enterprises that were mostly engaged in supplying the armed forces and they were under direct military supervision. These enterprises, representing the “war industry”, were divided into groups of factories managed by appointed senior officers. The organization of weapon production enabled the economical use of material through purposeful distribution and consumption.

The military exerted every effort to strengthen the defence industry, make it reliable, achieve the country’s self-sufficiency as far as possible and have the war industry thoroughly prepared for cases of emergency. The arms industry has undergone a considerable transformation since the early 1990s in the context of the changing security environment and the significant decrease in demand for military equipment after the end of the cold war.

Czechoslovak weapon production in 1918–1939

Prior to the inception of an independent Czechoslovakia, did not have particularly large levels of arms production which had already been developed on its territory.

Therefore, it is not true that Czechoslovakia inherited a well-developed defence industry from the Austro-Hungarian Monarchy and just continued in military production and export. The structure of the defence industry on the country’s territory did not meet the demands of newly formed Czechoslovak Armed Forces and therefore up until 1925, in the foreground was a build up of the domestic defence industry. These, together with the older Škoda Factory, were intended to spearhead export. Therefore, the first years after 1918 were not under the sign of arms export but rather their import.

Within 1920 – 1926, based on the aforementioned main producers and by means of predominantly inland capital, a very modern defence industry was built up. The arms production started to develop just at the time when the allocation of the military budget was changed. That is why in 1926 the “Fund for material needs of national defence” was established by Act No 240/1926. The annual drawing up of a budget was not bound with any credit deadline. These unlimited credit terms enabled the expansion of military production.

In 1935 the government established an independent organization for foreign trade – OMNIPOL, and from 1938, with a broad agents’ network used partly also for the mediation of arms exports.

During the whole inter-war period, Czechoslovakia (the CSR, CS) was included among the top ten world exporters and, according to annual reports of the Community of Nations in Geneva, four times it took up the second or third place. In 1934 and 1935 even the first place. The gain from foreign trade in arms was very high. Even then, however, Yugoslavia, Romania and Turkey were granted long-term credits.

Year	Order			CS share in world arms export (in %)	Note
	1	2	3		
1930	Great Britain	France	USA	9.5	4th CSR
1931	Great Britain	CSR	USA	11.1	
1932	Great Britain	France	Sweden	4.0	7th CSR
1933	Great Britain	France	Sweden	8.5	5th CSR
1934	CSR	Great Britain	France	27.0	
1935	CSR	Great Britain	France	24.4	
1936	France	Great Britain	CSR	15.5	
1937	Great Britain	Germany	CSR	11.9	

Reference: Olšovský, R.: World trade and Czechoslovakia, Praha 1960.

Table 1. The leading arms exporters from 1930–1937

After 1939, the entire Czechoslovak aircraft industry was incorporated into the giant concern Herrmann-Göring-Werke and worked for the needs of the Luftwaffe. Also the other branches of the weapon industry worked, after 1939, for the fascists’ war plans.

Weapon production from 1948–1989

It may seem paradoxical that the period of the last forty years of Czechoslovak arms production and export is hidden in denser fog than the prewar period. A number of records have not been released yet and it is also a very short time that has elapsed from the former regime, not providing enough time to elaborate upon this topic. That is why we have to rely upon the published magazine articles and uncertain reports from the foreign press. Nevertheless, the picture enables us to have an idea about the development of armament and the importance and main directions of the Czechoslovak arms export.

The weapon production started to grow rapidly. If, in 1950, its volume was 100 per cent, then in 1951 it already made 198 per cent and, two years later even 384 per cent. The share of military production in Czechoslovak mechanical engineering increased from 4 percent (1950) to 27 per cent (1953). It may be worth analysing these data and showing how the defence industry started to assume its superior position. The weapon production in a number of factories was also developed with an assistance of authorized representatives who were in charge of a great part of the engineering branches. The armed forces even intended to build their own metallurgical base in this period.

The first half of the 1950s was characterized by the rearmament and unification of the Czechoslovak Armed Forces' materiel with the Soviet Army. The recovery of the country's defence industry in the postwar period went fully under the guise of the adoption of the Soviet models of military materiel as mentioned above.

Having a detailed look at the decisions on development in the defence industry in the 1950s, we can see that both the Czech and Slovak political representatives were interested in building up the defence industry directly in their regions. The first such important impetus for a development of the weapon production in Slovakia resulted from the resolution of the Central Committee of the Communist Party of Czechoslovakia from February 13, 1954 on provision of special production (based on the requirements to rearm the armed forces).

The mentioned political decision from 1954 set the entire mechanism of building the arms production into motion which started with a considerable relocating of arms production from Bohemia to Slovakia. The relocating was accompanied

with a transfer of experts, too. The build up of the arms manufacturing capacities was mainly governed by the requirements of the Soviet Communist party. Though Czechoslovakia had an advanced defence industry from the past, the Soviet requirements were so high that it could not meet them as it had to ensure the military equipment for its own armed forces as well as the defence supplies for the other countries of the Soviet block.

The buildup of a sizeable weapon-manufacturing base required not only investment but also the high-quality and scarce raw materials for weapon production. In this period the rapidly rising requirements of the defence industry resulted in the reduction of civilian production. The enterprises manufacturing electro technical devices were congested with the supplies for the Czechoslovak armed forces and the Soviet Union.

The arms factories started to differ substantially from the civilian enterprises, primarily because of their demands for capital and structure of manpower. A number of changes can be found in a long-term time series but generally their demands for capital required higher investments in technology and a higher qualification of the work force.

The orientation of the military production towards the Soviet Union led to a development of licensed production which was primarily introduced into newly built arms factories. In the 1950s, the licenses were mostly free while in the 1960s and 1970s the Soviet Union required license fees, which were rather high. Czechoslovakia purchased licenses to manufacture aircraft and tank equipment. The last negotiated license agreement in the period 1953–1990 was a license to produce the T-80 tank.

Besides the licenses to produce the Ground Forces' materiel, Czechoslovakia started to manufacture the following Soviet aircraft: the IL-10, MiG-15, MiG-15bis and UTI MiG-15. In 1957, a small number of IL-10 attack aircraft were exported also to Yemen. The licensed production of the MiG jets meant the breaking point in the Czechoslovak aircraft industry and later enabled there own development and manufacture of aviation materiel. It remains a fact that not always the license production of the soviet materiel was economically more advantageous than the same materiel imported from the Soviet Union. It also refers, for example to the MiG-21 although, at the beginning, no license fees were paid to the Soviet party.

The usual practice was that the license fees were paid according to the number of pieces manufactured. Later, a total single license fee was to be paid.

In addition to the socialist countries, the greatest customer of the Czechoslovak arms factories in the 1950s was Egypt which purchased tanks and also aircraft. The Czechoslovak-made MiGs-15bs were employed in the Suez Conflict. The Czechoslovak tanks and armoured personnel carriers (APC) supported the Egyptian side in the Arab-Israel War in 1967. It was one of the OT 62 APCs, manufactured under the Soviet license in the early 1960s and enhanced by Czechoslovak designers, which was the first one to cross the Suez canal during the Egyptian offensive against Israel in 1973. Then, for a long time the OT-62 APCs were leading the Egyptian troops during military shows.

The OT 62 TOPAS (APCs) were also employed in the India-Pakistan conflict on the Indian side. Pakistan also applied for a delivery of Czechoslovak materiel but was turned down. Czechoslovakia offered Pakistan the creation of complete plants for military production instead, which became an important element of the country's military policy especially from the 1970s. In the 1960s the complete investment plants also represented a great portion of the Czechoslovak exports as well. Exports of military technology was strongly supported in the 1970s.

Period	Import	Export	Balance
1956–1960	5,787	6,642	+ 1,345
1961–1965	11,058	7,481	- 3,577
1966–1970	13,632	14,350	+ 1,318
1971–1975	19,744	19,892	+ 0,191
1976–1980	31,741	33,447	+ 1,706
1981–1985	43,482	45,878	+ 2,416
1986–1989	48,987	58,388	+ 10,601

Table 2. Import and export of weapons and military materiel to socialist countries (in CZK milliard, current prices)

The following table gives the data per single year. These data show absolute volumes of exported and imported weapons in single years. Especially interesting are the data related to the export of weapons to the socialist countries which, from 1960–1990, had a rising trend. This implies that with the worsening of the economic situation more and more military materiel was exported.

Year	Import	Export	Balance
1960	655	491	- 164
1970	1,297	2,119	822
1980	2,994	3,583	589
1988	6,503	7,543	1,040
1990	4,159	4,792	433

Source: Federal Statistical Office, 1991

Table 3. Mutual weapon trade between Czechoslovakia and other socialist countries (in millions of CZK, current prices)

Thus, a development in defence production was primarily focused on fulfilling the orders of the socialist countries. If the volume of production for non-socialist (i.e. developing) countries was 100 between 1956 and 1960, then, in the period between 1981–1985, it was as much as 236.

Compared with the prewar era, many things changed in the postwar period. Czechoslovakia did not succeed to link up to the trade achievements. For a long time, the country lost its independence in decisions about its business partners. It was also due to the fact that a considerable amount of materiel was produced under Soviet licenses and foreign trade with military equipment was influenced by the bipolarity in world policy.

The development of military production was affected by a number of circumstances. These included political and economic factors as well as military influences. Also the technical maturity of the industrial base that supported the production of weapons and military-purpose products should be taken into consideration.

The growth rate of military production, including the manufacture of military-purpose goods, was 42% in the 1950s, 27% in the 1960s and 20% in the 1970s. In the 1980s the dynamics was nearly similar as in the first half of the 1960s.

Changes in the global defence industry after 1989 and their impact on Czech Republic defence industrial base and its future development

Most industrialized countries have recognized the importance of the defence industry a long time ago and those countries decided to establish a government organization which is responsible for the health, capacity for growth, innovation, responsiveness to changes of its defence industrial base.

The whole process is supported by manufacturers selected by state administration. The process is motivated by political and strategic considerations, but it is also influenced by the maintenance of export potential and the competitiveness of traditional domestic manufacturers. The state offers its help in several areas – the conclusion of agreements on the export of weapons systems at government level, support for research and development, etc.

In order to promote stability and the efficiency of production, the government organizes a series of mergers of several manufacturers allowing the defence industrial base to have an adequate structure and desired performance. It is also about maintaining and improving its high technical and technological level.

In France, the process of restructuring the defence sector is under direct and significant state intervention. The collision of wider strategic interests with economic reality, supply difficulties and the challenging development of different types of programs (aerospace, missile and nuclear) means that the process has slowed down. Some issues have not been solved yet – for example reductions and reorganization and probably the necessary merger of weapons manufacturers.

For the basics for solving the problem of the defence industrial base we can consider privatization¹, which is increasingly influenced by groups with political

¹ Case of state company GIAT, which almost bankrupted in 1996 because of debts 2,4 billions of USD, shows how needed the privatization is. The state had to intervene and pay debts (3,7 mld FRF - 740 mil. USD) in first step of "emergency plan". The decision was taken under political pressure – the GIAT was employing over 12 500 employees in local 14 manufactures.

interests². In the UK, the process of rationalizing the defence industrial base has been characterized by this, probably, ensuring greatest flexibility. The success of the stabilization of arms production is today ensured by an almost 25% share of the global arms market (with an annual volume of about \$ 11.2), coming second place behind the United States (2010).

Direct state intervention in the defence industry in the UK practically does not exist. The interests of the state was implemented through a national strategy to support the defence industrial base, which is a manifestation of such a closure alliance agreement between the State and the Association of British airlines (SBAC).³ This national strategy defines the main directions of armaments acquisition policy and international cooperation in the field of armaments. We cannot forget the issue of the documents with information about new strategies and analysis of military conflicts.

The relative stability of the defence industrial base is ensured by the fact that private companies are long accustomed to operating in a competitive environment. It is a well managed manufacturing diversification of production, for example the process of pouring military and civilian production, depending on market conditions and changes in demand. Top subcontractors can handle a wide cooperation network. The necessary reduction of the production programs of final producers is the longer-term issues. The final manufacturers form the core of the defence industrial base.

Small countries profit from NATO efforts to optimize the defence industry within a specific field. The new situation in Europe and in the world has meant a definitive end to their inertia with persistent efforts to maximise arms autarky. For a small country it seems that the simple purchase of military equipment abroad (especially large weapon systems) is increasing an economic burden. Today, in a situation of limited defence spending and further rises in costs, modern military technology has become unattainable. This forces small states to decrease the technological level of their military if necessary.

² This is noticeable in a case of state company Thomson-CSF and in case of consideration fusion of air companies Aerospatiale a Dassault Aviation.

³ Content is represented by common subvention of research and development and production base of air industry.

This situation led to the escalation of efforts to broaden international cooperation, usual cooperation, co-production and licensed production. At the same time it has developed extensive strategies, payment schemes and financial compensation for amounts spent on imports of major weapons systems (aircraft, tanks, vessels, etc.) of own military and civilian industrial production. The so-called offset operations were and still are in these countries part of the state policy of the acquisition of military technology. The implementation of the offset policy was done by committees that had helped to do it.

Small countries do their best to produce according to the national demand, even on the edge of economic efficiency or even below it. However, there are other reasons than just fear of political dependence, which we considered insignificant in NATO. It is primarily a country's effort to keep running its own manufacturing capacity on critical national defence, but also to fulfil the objectives of economic policy.

It can also be noted that small countries tend to engage in joint international programs. Interesting in this context is a step by Denmark, the Netherlands and Norway to join the U.S. in producing the JSF aircraft, this includes a common share in the funding for this program.

Nevertheless, the crucial steps to optimize the defence industrial base in NATO countries were carried out, it is necessary to look wider in the Euro-Atlantic and global market. This is evidenced by such phenomena as the declining number of customers and decreasing the volume of demand. It is increasingly difficult to maintain acceptable production economy operations (in addition to the technical demands of growth) and the increase in product prices. This situation is forcing manufacturers to take part in common (international) programs organized on a multilateral or bilateral basis. There is nothing extraordinary about joint programs in the sense of self-preservation.

As a result of the relentless rationalization and reduction of production programs (manufactured goods) the total number of producers is (and will) continuing to decrease. For a limited market, there is not the place for a wide variety of quality comparable to the same products. This will gradually force specialization and further expansion of armaments cooperation, in which we promote financially strong and technically proficient manufacturers. This situation, on the one hand,

means for the small and weak producer a loss of opportunities, a loss of place for their production and the narrowing of their own production, especially the decline in production to final extinction. On the other hand, increased competition will result in innovative small companies that have innovative know-how and the ability to access technology programs, with innovative ways of strengthening their market position and obtaining government contracts from for defence and space research.

The arms industry in the Czech Republic went through a complex and dynamic process of transformation. This transformation was influenced by external and internal factors as well.

Speaking about the external factors, we have to mentioned firstly the changes of the territorial forces and influences in Europe, a division of the Warsaw Pact and the Council for Mutual Economic Assistance, a significant decline in military budgets accompanied by a strong wave of reduction of the armed forces, intensifying competition in the defence market and the persistent barriers to entry from outside the nation States.

Considering the internal factors, we can start from a dramatic drop in demand of the Czech armed forces, privatization, a quick stop of production of heavy weapons, a decrease in employment (in some cases up to 80%), growing disinterest of representatives of the government in this part of the economy and a lack of a concept resulting in the fragmentation and subsequent loss of the ability to adequately meet the potential demand.

Around the year 2000, we saw the short-term recovery, which can be illustrated by two major contracts from the Ministry of Defence. It was the purchase of L-159 ALCA subsonic fighters and the modernization project of the T-72 M1. This recovery efforts were related to partially preserving the capacity of national manufacturers and providing space for consolidation. Since 2004, the Ministry of Defence and the Ministry of Trade and Industry are focusing on acquisition, which was accompanied by significant offsets.

Nowadays, the Czech defence industry is characterized by a limited production capacity⁴, a significant proportion of civilian production and the ability to develop dual-use technologies. It is competitive on the world market⁵ and it has the potential for further development⁶.

The Czech Republic has currently 220 companies with authorization for the import and export of military material. In 2012 the government granted a total of 1,220 permits for the import and export of weapons.

Year	Import	Export	Balance
1994	39	172	133
1995	44	136	92
1996	30,5	103	72,5
1997	29,3	161	131,7
1998	38,8	92	53,2
1999	102,3	89,9	-12,4
2000	150,5	86,7	-63,8
2001	113,3	60,5	-52,8
2002	92	77	-15
2003	120,4	82,9	-37,5
2004	125	89,7	-35,3
2005	726	88	- 638
2006	92,7	93	0,3
2007	193	174	-19
2008	106,7	189,6	82,9
2009	179,6	179,6	-4,5
2010	376	217	49,4
2011	238,2	183,4	-54,8

Source: Annual Report MIT 2012. <http://download.mpo.cz/get/35863/52477/591018/priloha001.pdf>.

Table 4. The evolution of imports and exports of military stocks in the Czech Republic from 1994–2011 (mil. €, current prices)

⁴ We can speak about loss of ability to produce the most important major conventional arms, as a result of separation of Czechoslovakia and transformation.

⁵ Actual military exports are much different than the sale in late 80s and early 90s, but the decrease in sold outcome is visible. The reduction is dealing with areas, where Czech military manufacturers have strong position and we should expect maintain of positions.

⁶ According to the declamation of president of Association of defense and security industry, Mr. Jiří Hýnek, the economic recession does not have serious impact on industry, because of long terms contracts.

This relatively favourable position presupposes a radical change of attitude of the government, the Ministry of Defence and other central state administration assets to the defence industry. It is dealing with the optimization of the acquisition process, increased awareness of and campaigning for start-up companies in the field of research and development and creating space for the presentation of their production abroad. An essential step of the government program is represented by a conceptual defence industrial policy, which would be a meaningful part of state policy.

Conclusion

The new point of view on armed production has to respect five different perspectives:

- the consequences of changed geopolitical, security and military environment influences the choice of military equipment,
- the consequences of a decreasing military budget,
- externalities, which take basis in expenditures on research and development and the existence of defence industrial base (spin-offs),
- the current and possible influence of military production on industrial competitiveness of economy,
- current conditions and the possible future of defence industrial base.

How can we imagine the future of the defence industrial base in the Czech Republic? It will be surely influenced by the situation on the global defence market and also by many other factors. Factors from outside the market, which influence the Czech defence industry, are mentioned below:

- limitation and following restriction of offsets in defence businesses,
- the realization of collective international development and acquisition programs⁷,
- the consolidation of defence industry – the realization of other horizontal or vertical fusion of companies specialized in armed production.

7 Those programs should fulfill expectation dealing with time schedules, expenditures, risks, management and capacity of programs.

Factors, which will influence the defence industrial base in the Czech Republic are connected to the basics of the industry, but also to the government's decisions. We consider the following factors:

- the ability of Ministry of Defence to behave like an institution minimizing expenditure,
- the conception of politics, which consider necessary the defence industrial politics,
- the ability of government to finish the privatization of the defence industry, which is partly or completely owned by the state,
- consolidation of the defence industry, the continuing fusion of the defence industrial base,⁸
- the ability of companies to do their own research and development, especially the development of technologies of double use and technologies with a high added value,
- the ability of companies to fulfil demand, which exists because of new requests in the security environment⁹.

Except for existing factors, we should consider the influence connected to the role of the defence industrial base in potential current conflict. This role could be represented in different areas – from maintaining control, sporadic production, accelerated acquisitions in planned programs, to the modification, development and production of new armed systems. Modern defence industrial politics should respect possible roles and for them what is adequate is to create conditions.

From the arguments mentioned above we should conclude that the defence industrial base is an inseparable part of the national economy and it should be cultivated as a functional part of securing the economy during danger or conflict. Those roles were respected in the years 1918 – 1939, also in conditions of the socialist system in Czechoslovakia, and they should be respected in current times, even in the future.

⁸ This factor is important to overcome significant fragmentation of defense industry manufacturers.

⁹ New areas on defense market are created by new demands on innovation in technology, especially in cyber security, control, reconnaissance flies, military robotics and data transmission, which offer opportunities for Czech companies as well.

References

- Archives of the Ministry of Industry, VM SÚP fund, etc. 1114.
ATM č.5/2013, měsíčník.
Bulletin of the Ministry of National Defense, No 6/1936
Čechák, O., Ivánek, L., Krč, M., Šelešovský, J.: Zbrojní výroba, konverze, obranyschopnost. Praha 1993.
Captain, T.: Compass 2010 – Global Aerospace & Defense sector outlook. [on line] c 2010, poslední revize 10.05.2013 [cit. 2013-05-23] Dostupné z: http://www.deloitte.com/assets/Dcom-Global/Local%20Assets/Documents/Manufacturing/dtt_Compass%202010%20global%20aerospace%20and%20defense%20sector%20outlook_02_10_2010.pdf
Deset let Československé republiky. Svazek I. Praha 1928.
Dvacet let Československé republiky. Praha 1938.
Kaplan, K: Československo v letech 1945–1948. 1. část. Praha 1991.
Kaplan, K: Československo v letech 1948–1952. 2. část. Praha 1991.
Kaplan, K: Československo v letech 1953–1956. 3. část. Praha 1991.
Kaplan, K: Československo v RVHP. Praha 1955.
Karlický, V.: Čs. zbrojní průmysl v letech 1918–1939 a jeho vývozní činnost. Praha 1966.
Krč, M.: Evoluce československého zbrojního průmyslu. In: Sborník Vojenské akademie v Brně. Č 3, 1992.
Krč, M., Šelešovský, J., Ivánek, L.: Vliv zbrojní výroby na ekonomický vývoj. Brno 1999.
Krč, M.: Vojenské výdaje v letech studené války a po jejím skončení. Praha 2000.
Olejníček, A.: Nové jevy v ekonomice obrany po rozpadu bipolarity. Vojenské rozhledy, 2006. č.3. s. 25–46. ISSN 1210-3292.
Pánek, B. Letecký a obranný průmysl čeká v roce 2010 stabilní růst. [on line] c 2010, poslední revize 10.05.2013 [cit. 2013-05-23] Dostupné z: http://www.deloitte.com/view/cs_CZ/cz/press/press-releases/333b512d09cd6210VgnVCM200000bb42f00aRCRD.htm
SIPRI Yearbook 2009, str. 288, www.sipri.org;
Výroční zpráva o kontrole vývozu vojenského materiálu, ručních zbraní pro civilní použití a zboží a technologií dvojího užití v ČR za rok 2011 <http://download.mpo.cz/get/35863/52477/591018/priloha001.pdf>.