ANALYSIS OF THE RESTRUCTURING OF THE RUSSIAN DEFENCE INDUSTRY
(BY THE EXAMPLE OF AVIATION INDUSTRY AND KNAAPO)
AND THE CREATION OF UNITED AVIATION CONSTRUCTION CORPORATION

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Maryana Kuzmina. Analysis of the restructuring of the Russian defense industry (by the example of aviation industry and KnAAPo) and the creation of United Aviation Construction Corporation.

The present study is focused on the analysis of the three main governmental measures occurred in 2000-2006 in Russian defense industry: the creation of the holding structures, the establishing of the state monopoly in arms export, and creation of the United Aviation Construction Corporation (Ob’edinennaya Aviastroitel’naya Corporatziya), which was initiated by the President and Government of Russian Federation in 2006. The last project assumes the consolidation and joining of all producers of civil and military aviation into one united corporation in order to save the technological and productive potential of the sector after serious crisis in 1990-s. On the other hand, this project can be considered as one of the measures to establish state control and hierarchy in the defense industry. The current project tries to analyze the necessity and the possible impacts of restructuring processes In order to perform such analysis, I need to observe the evolution of the sector, which involves the description of the restructuring and reforming of the industry since the disintegration of the Soviet Union. The current situation in aviation sector was shaped by number of reforms performed by Government of Russian Federation, which I describe in phases: conversion, privatization, decentralization, followed by evident desire of the state to establish control over some companies. Later on, I am trying to understand the reasons lying behind all reforms of 2000-2006 and the integration of the industry. I also try to predict which impacts on the companies it will have.

The report is structured as followed; Chapter 2 will give the information about the initial point of reforms (as of before the collapse of the Soviet Union), description of the reforms on the first two phases of the restructuring process (1992-1999 and 2000-2006), and project of the creation of the United Aviation Construction Corporation. Chapter 3 “Analysis of the reforms of 2000-2006 and main consequences of the creation of the United Aviation Construction Corporation”, will present the performed analysis of the consequences of the reforms that were introduced in 2000-2006. Chapter 4, finally, will center on main conclusions, principle findings and recommendations.

Key words: Russian defense industry, military and civil aviation producers in Russia, restructuring, United Aviation Construction Corporation.

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I INTRODUCTION

1.1 Research problem and its relevance
Russian defense industry unites about 1600 companies and enterprises which are able to produce the whole spectrum of military products and ammunition, starting from uniform and small weapons till development of complex electronic, aviation and cosmic production. The defense industry of the Soviet Union occupied the position of the leading sector in the economy. However, it was almost completely destroyed in the course of reforms after the collapse of Soviet Union. It is a common fact that nowadays the defense industry in Russia is in the deep crisis mainly due to spontaneous privatization, permanent restructuring and inconsistent reforming. The absence of the strategy on transformation of the sector with consideration of the particular properties of each enterprise is evident. The government reforms started in 2000 pretended to perform restructuring and improve the situation within the sector. However, their efficiency can be questioned. That’s why the research of the development and evolution of the Russian defense industry seems to be very complex and complicated task. The current work focuses on the analysis of the main reforms and processes occurred in the sector during the last 15 years and on the impacts they had.

The relevance of the present work is explained by the course of reforms that have more and more irreversible character of consequences, and implementation of the United Aviation Construction Corporation Project, that was initiated at the end of 2006. Besides, the elaboration of the prospective development and restructuring scenarios and improvement of state governance of the defense sector is becoming to have exclusive importance for the transformation of the Russian economy and its transition to innovative model of development. Thus, the success of this project can lead to full recovery of the sector, firm positions on the world markets and improvements in the structure of economy as a whole, while the failure can cost the loss of Russian aviation industry.

1.2 Objectives and limitations.

The main objective of this paper is to describe the efforts of the government to establish control over the sector that can be followed from three main reforms:
- creation of holding structures;
- state monopoly on military export;
- and the project of the creation of the United Aviation Construction Corporation (UACC),

and analyze their efficiency and the most probable consequences. Creation of the holding structures was aimed at consolidation of necessary resources around perspective projects. The main goal of the establishment of the state monopoly on arms export was the elimination of the competition on the world market among Russian companies and development of the unified strategy. The authors of the project of the UACC claim that it will help to solve the main problems that aviation companies are facing nowadays: lack of orders, internal competition, excessive facilities, lack of financing and new technologies. However, the methods and mechanisms that were and will be used let us doubt in recovery of the sector. Thus, the main research objective is to prove that the claimed goals of the UACC’s project will not be achieved and such restructuring will lead to worsening of the situation.

Of course, such an analysis can not be performed without an adequate consideration of a historical evolution of the sector since the collapse of the Soviet Union and reforms and processes that occurred within the sector. The present work will try to establish links between reforms, current situation, and probable results of the above mentioned restructuring processes.

The present work is limited to the study of the evolution of the Russian defense industry for the period of 1992-2006. Besides, due to the scale of the problem and its complexity, the analysis of the reforms can be limited only to the most common patterns of development, results and cases, thus, eliminating particularities of some companies. Besides, evolution of the sector in 2000-2006 is limited mainly to the aviation sector and the pace of the restructuring processes is faster than in other defense industries. Some features are illustrated on the example of a particular enterprise. Thus, further studies of other sectors (shipbuilding, helicopters production, and others, which are also subject to the same processes that are occurring in aviation industry) can be extremely important. Besides, it is worth analyzing of the conclusions of this study analyzed in the next 5-10 years.

1.3 Methodology of the study

The research that was realized was exploratory and descriptive in terms according to its goals. The initial condition of the defense sector, course of reforms and processes, and the factors that played major role and formed the modern defense sector are presented in descriptive form
in order to understand the state of affairs in the industry, while their impact and consequences, as well as different characteristics pertain explicative character.

The empirical part of the project intends to study available data relevant to the targeted problem and form observation about characteristics of the object, the Russian defense sector. The sources include government programs, published statements of politicians and defense industrial managers, press releases, digests, data bases, survey data, as well as expert and scholarly analyses.

The project does not assume specific pre-determined theoretical model but based on the set of assumptions about the nature of the object of research and the context of its development, which will be described in the course of the project.

The main research mechanism was bibliographical revision uniting information in different newspapers, databases, magazines, books, publications of research centers and historical archives. Internet search was performed in order to follow the latest changes and decisions. The documentary revision helped to base the research on the real legislative acts, laws, decrees and existing instructions. Unfortunately, the utilization of the interviews was not possible due to distance problems and impossibility to reach the attention of related officials and sector leaders. However, those interviews that were publicized in magazines, newspapers and Internet sources, were not leaved without attention and presented in the research.


2.1 The condition of the sector before the collapse of the Soviet Union.
**General policy.** During the Soviet period there was established an effective (from the point of view of strategic military goals) system of highly technological branches, the nucleus of which was constituted by defense industry. With the efficiency in resolving the tactic goals, the defense industry has been developing in the conditions of special political and economical directives and obligations. As a result, the functioning of defense enterprises was in contradiction with the principles of economic efficiency and cost-benefit approach in long-term run, which to high extent predetermined the development vector of the whole sector in post-Soviet period.

According to Sergeev (1998, p. 46), the defense industry consumed a lot of material, human and natural resources. The whole economy was over-militarized, and it is difficult to underestimate the consuming needs of the sector. By the end of 1980-s the defense sector produces 20-25% of the country’s GDP, while in the USA in 1970-80s it was 5-6.3%, in Western Europe – 2.1-5.2%, in Japan – 1-1.14%. About 75% of all scientific expenditures were aimed at military research, and more than 25% of the industrial labor force was involved in some area of military production (ETKALO, 1999).

According to Rybas (1998, p. 46), the aviation industry in 1980-s, as well as many other sectors, in terms of structure and governance was not very different from that of 1930-s, when it was created. With its system of design bureaus, closed scientific institutions, experiment factories, mass-productive plants, governmental support, special education centers and other infrastructural facilities it can be characterized as the highly integrated self-maintaining system. The creation of the industry was the idea of Stalin, which considered as appropriate the creation of a limited number of independent design bureaus (developing new weapons and military projects from initial concept to prototype), which compete with each other for the state order (in order to stimulate scientific researches and technical progress), experimental facilities which were aimed on experiments of new prototypes, and serial factories capable to replicate, construct and produce in adequate scale the most prominent ideas of designers. This is how the famous airplane series (both civil and military) were created: MiG, Su (Sukhoi), Il (Ilyushin), An (Antonov), Tu (Tupolev), Yak (Yakovlev) and others. Both the designer centers and factories were under governance of the one state ministry. Within the limits of this ministry each aviation company had its own more or less specific niche, which it was developing.

As for civil aviation sector, it was also not aimed at commercial results. The market for its production was enormous: USSR, Eastern Europe and other socialistic countries, plus some
African and Latin countries (SERGEEV, 1998). This allowed spending of substantial sources.

Airplanes of the same type were developed by two-three design bureaus, and after all these projects were introduced to serial production. This was disadvantageous in terms of two aspects: unification and serial (mass) production. First it did not allow unification of spare parts and aggregates, which in turn created problems with maintenance and flying service. Second, it did not give the possibility to produce large series of particular airplane, thus, leading to its excessive costs and high prices.

The structural system of all defense enterprises was based on the principle “make at any price”. The enterprises were created as at most autonomous structures in order to perform on its own the maximum of technological operations on product output. According to Almquist (1990), each enterprise represented something that can be called “natural economy”. On the other hand, there was established the system of tight cooperation ties, which were very important in terms of production. This cooperation existed not only within the members of the same “family” (the design bureaus were developing the model of the airplane, which was then transferred to the experiment factories and mass-order plants), but also with many subcontractors: the suppliers of raw materials, different spare parts, engines, electronic devices and others. This special supply system guaranteed regular high-quality provision of the most advanced technology in the country, as well as highly qualified human resources.

Another characteristic of the system was the aspect “the money does not matter” (COOPER, 1986). The main purpose was to create, to produce, and not to economize. It is absolutely clear, that with this approach not the military industry worked on the whole economy, but the economy (mainly mining sectors) was working on defense sector. Moreover, the military and defense sector was always given a priority in the allocation of financial, material, labor and intellectual resources.

**Institutional structure of the industry.** One more important characteristic was the existence of “duplicated” backup plants. Because of the possibility of military intervention it was decided after the Second World War to have the similar or even the same (in terms of final product) enterprises in different regions of the country. The plan to avoid high regional concentration in central regions (Moscow, Saint-Petersburg) reallocated the scientific and production facilities: the research institutions, as well as design bureaus, remained in central regions, while production facilities were duplicated in many regions of the country, primary in Ural, Siberia and Far East (RYBAS, 1998). The facilities were established in so called “closed cities”, where all infrastructure and human resources were allocated for the purposes of
military-related production, thus, the military enterprise was the only employment possibility. This has augmented the relative costs even more.

The enormous amounts of military output created the necessity to sell on the world market. According to data, annual volumes of export of armaments, weapons, including spare parts, and construction of specific facilities amounted to US$ 6-10 billions in 1981-1989 (ZLENKO, 2000). But the military production did not bear the purpose to bring the currency incomes and recompense the enormous military expenditures (The payments in currency and resources did not exceed 10-15%, the share of special state credits sometimes reached 69%, and gratuitous support (free export deliveries) amounted permanently to not less than 30% of defense export) (KARACHAROVSKY, 2001). On the contrary, the political aspect was in place on the foreign market: the production was sold only to “friendly” countries – Eastern Europe, Middle East, African countries. The principles of the Soviet foreign policy dictated the necessity to supply the main part of military production in return to political promises. As a result, the actual currency earnings were very poor due to understated prices, or were considered as outstanding debt of foreign states, or even were given without compensation.

According to Akshintzev (2001), civil sector never functioned independently, but as a part of military productions. The military companies produced the major part of civil production: 90% of television sets, refrigerators, radio stations, 50% of vacuum cleaners, motorcycles and stoves. The quality and design of the civilian products were very low compared to Western examples, as well as very little consideration was given to changes of model or adaptation to consumer’s demand. The most modern commodities (stereo systems, video players) were hardly produced. Most of the companies were involved in civil production due to the conversion process firstly initiated by Gorbachev in the late 1980s. The Gorbachev government realized that it cannot anymore provide the necessary amounts of financial and other resources, and planned in the course of “perestroika” not only to convert, but also introduce some elements of market economical system (the plan to turn the enterprises to the self-finance and implementation of contra-deal (or barter) contracts). The scale of conversion process was determined in the Decree of Presidium of Armed Forces of USSR from 21.03.1989, which defined the military expenditures cut in 1989-90 as follows: the cut of military expenditures by 14,5%, the decrease in state order by 19,5%, and layoff of 500.000 people from arm human force (ASTAKHOV, 1995, p.118). The logics lied behind this decision was that defense budget cuts would provoke the liberation of the productive capacities, and other financial, material and human resources, which can be used for civilian purposes.
However, in the process of transformation it turned out that the quality of the civilian products was much poorer than that of the military production because the mechanism of implementation of military technologies into civil sector was not introduced. This is probably due to the fact that military enterprises involved in civil production were accustomed to produce only military products and management considered the civilian part of their production as burden and somewhat interrupting their military plans. Also, planners mistakenly expected to achieve conversion by a Soviet-style centralized program and without additional funding to support the lengthy, stage-wise conversion process. The management of the factories was disappointed with the changes that brought the loss of skilled manpower and financing. Conversion has required Soviet defense enterprises to restructure technology and retrain workers under noncompetitive and resource-scarce conditions. Defense enterprises have been allocated little or no funding to support conversion costs. The loss of the manpower was mainly caused by dissatisfaction of the workers with the new workplace and cut in salaries (ROBERG, 1991). That is why civil sector could never act to the full extent on the world market. The only niche was the internal market, which was not competitive and was specially protected from the intervention of foreign companies. If the military products were technologically able to compete with foreign examples, the civil products were completely out of date and obsolete.

In terms of economical efficiency the defense sector was inefficient, unnecessary, excessive and poorly functioning, but in terms of the “cold war” the principle of “natural economy” was considered as the most appropriate. Despite this malfunctioning, the defense sector was given high priority status and special planning, rationing and administrative mechanism which was used to ensure the attainment of national security and military objectives.

The system of governance and management was concentrated in governmental institutions. The defense industry was the quintessential representation of a classic command economy, with its rigidity, centralized control, strong vertical hierarchy and elaborated, quantitative, obligatory plans that articulated political and military needs rather than efficiency considerations. Being a specific, closed sector of the economy, the management of the defense industry managed to preserve these basic characteristics for many decades until the collapse of the Soviet Union. Astakhov (1995, p. 63) resumed that traditionally the defense industry constituted the most powerful lobby in the Soviet Union with an administrative structure at all organizational levels where its interests could be affected. With a hierarchical and pyramidal structure, the different entities of the sector remained isolated from strictly civilian bodies.
**Organizational structure and managerial aspects.** The principal organizations involved in Soviet military science and technology were subordinate to the defense industrial ministries and Party’s decisions. The enterprises had the least level of control and decision-making power. Because of the need to coordinate supplies and requirements, and to avoid contradictory instructions, the system was the centralized one. All important decisions were made in principal ministries. Tzymbal (1994) described the structure as follows. The Ministry of Defense defined the policy of development of the new types of armaments, the nomenclature and quantity of weapons to be produced, and performed the control over the quality of production. The special departments of GosPlan (State Planning Committee) carried out planning and allocation of financial resources, supplies and other resources, determined the production activity, output and assortment of each enterprise, and even the cooperation and consumer of the final product. Besides, the prices (for materials and for final products) were state-fixed, and in most cases underestimated. All the decisions and directives were subject to obligatory execution. The slightest deviation of plan was completely prohibited, while the incentives were granted for precise fulfillment of plan. Because of such state’s planning activity the managers were basically concerned with plan’s fulfillment and adjustments and were not accustomed to make any other crucial decisions. Thus, the effectiveness (ability to meet planned targets) rather than efficiency was the main criterion of enterprises’ activity. As a result, there was no place for any management efforts.

On the other hand, if we consider micro level, the person solely and fully responsible for company’s activity, fulfillment of the plan, and every aspect of administration and production was managing director, which meant high level of centralization on a micro-level. The managers of the most important factories were appointed directly by the Ministry of Defense. According to Bandurin (1994), managing director could not pass the responsibility to any other employee, even if the error was committed by the latter. That is, the director was responsible not only for correctness of the given order, but also for its timely and precise fulfillment by the employee to whom it was given. In accordance with this, the director had the main power on the enterprise; his decisions and instructions were obligatory and obeyed without question, though it was understood that director’s freedom was constrained by his need to fulfill the plan.

Thus, the managerial abilities of many managers were mainly limited to the fulfillment of the order from above. The quality, cost, timeliness and real need for their products were not given any importance. Marketing, management, managerial accounting and finance were somewhat
unfamiliar to managers. In this environment, they were unable to develop the skills needed in terms of a competitive global economy.

Table 2.1 - Macroeconomical, institutional and microeconomical aspects of the defense industry’s functioning in the Soviet period

<table>
<thead>
<tr>
<th>General policy of the state</th>
<th>Institutional structure</th>
<th>Organizational structure and managerial aspects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economically inefficient and excessive industry consuming large amounts of resources with main focus on achievement of political and tactic goals of the Soviet regime</td>
<td>Existence of developed cooperation systems among suppliers, producers and research institutions; Civilian production is considered only as a supplementary part to main military activities</td>
<td>All decisions and plans were concentrated in major central institutions; Highly centralized system with strong vertical hierarchy; Managing director of the enterprise was responsible for company’s activity.</td>
</tr>
</tbody>
</table>

Main consequences and features of the defense industry’s functioning are presented in Table 1.1. As a result of this policy, according to some expert opinions, such inefficient structure, enormous expenditures, as well as wrong priorities, focus on quantitative factors, over-financing, ignoring of economic efficiency, and total secrecy which excludes the distribution of military technologies could have played the major role in economic collapse of Soviet Union. Hence, the problem of transformation and restructuring of the Soviet military-industrial sector became ripe.

2.2 FIRST STAGE: 1992-1999: CONVERSION, PRIVATIZATION, DECENTRALIZATION

**General policy.** The political and economic chaos of the late 1980s and early 1990s soon resulted in the disintegration of the Warsaw Pact and the collapse of the Soviet Union, which
was officially dissolved on December 31, 1991. The Russian Federation inherited the largest
and most productive share of the former Soviet defense industry, employing as many as 9
million workers in 1,500 research, design, and production facilities. As for aviation industry,
Russia inherited about 85% of Soviet aviation sector, with all main design bureaus, test
facilities, research institutions continuing to function in Russia, as well as related engine,
avionics and radar component suppliers (CHERNYAK, 1996).
The political changes and rapid economic liberalization in Russia had an enormously negative
impact on the strength and funding of military and related industries. With the crash of the
Soviet Union, the large-scale and lucrative military markets and intense military-cooperation
networks collapsed. Besides, traditional markets for Soviet armaments were saturated by
1990, the demand was satisfied and the new stage of modernization and rearmament was
expected only by 1995-1998. Defense enterprises quickly became insolvent and loaded with
cancelled production plans and enormous reserves, thus balancing on the edge of bankruptcy
and facing dim prospects about their future. Owing to radical defense budget cuts, there was a
drastic drop in state orders which lead to degradation of the defense companies and dismissal
of qualified human resources; many programs and projects for the military were terminated at
various stages of progress. In addition to the problems stemming from their specific profile,
defense industry enterprises had to cope with challenges of various administrative
reorganizations, trade liberalization, decentralizations, and changes of legal form, as well as
new monetary and fiscal policies. Most companies went through several stages of ownership
changes, being first converted, commercialized and then partially or entirely privatized. After
a while, the companies were reorganized; some went bankrupt and forced to close down,
other survived with a reduced workforce and output.
The first two governmental measures met by defense companies were privatization and
conversion process.
Conversion. Basically, the idea of conversion appeared in the late 1980-s, and even some
efforts were initiated. The official reason for conversion process was that with the end of the
“cold war” and new partnership of Russia with the USA, Russia does not need anymore to
prove its position as the second global “super-state”. As a result, Russia needed to cut its
defense budget and re-orient defense companies. The decision to radically cut military
expenditures was one of the first decisions of E. Gaidar after his appointment as Prime
Minister in November of 1991. This decision was immediately introduced (MENSHIKOV,
1999). The official law was adopted soon on February 12, 1992. In the drive for privatization
after the fall of communism, Russian planners as well as the management of some companies
initially believed that defense industry, the best supplied of Russian industries, could be converted easily (especially after the conversion process initiated in the late 1980-s) to production for the civilian market and thereafter would become an engine of economic growth. The world practice showing that large-scale conversion of the most powerful and technically progressive sector is very complicated, expensive and potentially perilous process requiring clear goal determination and implementation plan, clear state management, regulation and control, was no taken into consideration.

The optimism of Russian planners faced the total lack of demand for civil products of the industry and its inexperience in developing and selling goods on a competitive marketplace. The major obstacle was provoked by the liberalization of the foreign trade in 1992, which resulted in flow of household electronics and other similar products from neighbor countries, which (if compared in terms of price-quality) were preferred by the population. Besides, the sharp drop in real income of the population also played its role.

Sanchez-Andres (1995. p. 1289) indicated that although conversion received much publicity and billions of dollars in Western aid after 1992, government subsidies for that program decreased steadily in the mid-1990s, and only a small percentage of the allocated funds were actually spent for conversion purposes. No funds were authorized for conversion in the 1995 budget. Most of the used funds were only declared as to be spent to conversion. This is due to the dilemma that the companies met. On the one hand, the financing of the sector was very small and the problem of insolvency became apparent. On the other hand, the fragile situation stimulated interest to obtain conversion loans and assistance so they could be used to solve ordinary problems. Sometimes the funds were in practice aimed not on direct conversion needs (it became the secondary aim): the necessity to maintain the employment level (especially in “closed cities”) gained more importance. Moreover, in the specific conversion projects eligible to receive financial support, the information was provided completely by the enterprises and could not be verified by the authorities who decided which project is really viable and which were aimed to deal with other problems. Besides, serious problems arose when trying to control the actual destination of the funds, i.e., the impossibility to prevent the funds from being used for non-conversion needs. Moreover, from the moment of funds’ allocation till their reception the inflation devaluated the real value of money to high extent.

In addition, some companies in terms of their conversion programs were opening new small enterprises which were not engaged in production and their nature was strictly speculative. Their immediate effect of such enterprises was the extraction of economic resources from the defense companies without introducing production adjustments and without promising any
future prospects. Some defense industries have mounted successful conversion and restructuring programs, however.

Finally, the conversion process in the next years has been characterized by two aspects: (1) the funds aimed at conversion process, has been reduced each year, (2) the federal government has been distancing itself from the participation in the process giving more importance to local governments (KUZYK, 1999, p. 77).

The results of the conversion process in terms of whole defense industry, the were marginal. In fact, since 1992 the civilian production has in fact been decreasing. In 1992 the production of civilian goods was 93% of that of 1991, whereas in 1993 the percentage was 89% of that of the previous year. The trend continued in 1994, when the decline compared to the previous year reached 36% (SANCHEZ-ANDRES, 1995, p. 1292). In addition, it should be noticed that since the late 1980-s, the defense industry companies have not only produced military products but also civilian ones. Moreover, it becomes difficult to determine whether the conversion process took place or there was only an increase in civilian production output. If consider companies, there are only limited examples where conversion was successful. Mainly electronics, instrument and small weapons companies managed to implement conversion plans, because it was significantly easier to convert smaller-scale enterprises. Major problems were met by large-scale, energy and raw material-intensive companies, which makes conversion process and restructuring extremely difficult and costly.

Presidential decree “The National Technical Base” in October 1996 admitted the failure of the conversion program because it was based on the obsolete technology. It pointed out, that the key point was to use the modern dual-use technologies and produce military and consumer goods that can compete on the world market, which in fact was not realized.

Privatization. At the beginning of the economic reforming in Russia there was a wide belief that privatization was going to resolve the problems of state-owned enterprises. Privatization took place as part of so called “shock therapy” initiated by prime-minister E. Gaidar. The main steps of his course included price liberalization (which caused enormous inflation – 10000-15000%), foreign currency liberalization, foreign trade liberalization, and voucher privatization that took place in 1992.

The privatization in defense industry occurred much later than in civilian branches. This is probably due not only to the size and importance of the issue, but, as well, the resistance of the management of some companies and state agencies, which did not want to “play new rules” and hoped that the government after some crisis period would continue the allocation of large-scale subsidies. Bakanov and Sheremet (1999, p. 112) studied that till 1993 the
privatization affected basically only the small number of companies considered not too important within the sector or with great share of civilian production. This was mainly due to the lack of adequate legislative base, proper organization and control. Only from 1993 the changes became to have a greater influence in this industry. By that moment government realized that it can not anymore support the oversized sector; and the only way out is to transform the state corporations into private companies or companies with mixed participation.

The first privatization plan that was implemented divided all the companies into the three groups. The first part included companies with predominantly military production, the second united those with military production’s share less than 50%; the third grouped companies with only civil production or with military production of low strategic importance. The third group was subject to be privatized first and without any restrictions. The second group would be privatized with state’s major participation or special control right, while the first group (449 organizations) would remain the state property (ASTAKHOV; BANDURIN, 1995). The companies were liberated to start the privatization process by their own initiative (unless for the third group, whose privatization required special governmental approval). In the way of privatization, some enterprises even named the company that they would like to be sold to.

By the time this privatization process started, the companies felt the scale of the problems with state order and financing large fixed costs, and were interested in privatizing. This desire to privatize “as soon as possible” caused some problems. For example, the discontinuance of the privatization process occurred at the companies where it had already been initiated. An uncontrolled privatizing (sometimes semi-legal or even illegal) happened within the sector with a series of large companies from the group that had to remain “state-owned” were privatized (EKONOMIKA I ZHIZN’, 1993).

Due to such facts, the government tried to establish more control and order in process and in the second half of 1993 issued a new decree which included only 2 groups of companies: those that should remain in state property, and those that are eligible for privatization, but with certain state’s control mechanisms, such as golden share or controlling block, or right to veto.

With established privatization rules, the pace of the process increased: by the end of 1992 only 78 companies (mainly those producing civil production) were privatized, while by the end of 1993 25% of the defense industry (over 500 companies) had accomplished or were carrying out privatization process (PROFIL’, 2005).
In 1994 the regulation of the process was changed again. This time, the government allowed the workforce to acquire some part of company’s shares according to three complicated schemes. The implementation of the new mechanism was difficult, because in order to determine the applied scheme for particular company, it was needed to define the state’s controlling block (51%, 35% or 25.5%); as the determination of it was performed by three different state bodies (KARACHAROVSKY, 2001).

However, many companies have preferred the privatization scheme, when the majority of shares belong to management and workers. This preference was due to the possibility to preserve insider ownership and, thus, managerial control and decision-making. This approach allowed more control, but, on the other hand, required consistent and adequate decisions and higher responsibility. As a consequence, such scheme after a while resulted in improvements of managerial skills and performance.

However, according to Ulyukaev (1999), the majority of the most important companies were formally privatized, i.e. remained under control of state-owned banks, institutions or companies. With changed form, not the content, the companies lacked managerial long-term strategy and ability to mobilize capital for restructuring. The privatization did not stimulate the majority of managers to perform the adequate restructuring in the companies. Another problem is that privatization’s goal was to help the companies to acquire financial resources. But, due to the lack of good economic prospects, overall depression and undeveloped mechanisms of property valuation, the shares were sold at low prices, thus, not bringing necessary financial funds. The situation was even worse if we take into consideration the lack of potential investors and the fact that major part of the shares was sold to the companies’ workforce. On the other hand, the companies themselves were not willing the participation of external investors, while external investors did not want to be involved in the activity with strong governmental control and lack of freedom in decision-making.

With many cases of uncontrolled privatizing, the law of 1996 was designed to strengthen control over different aspects of the privatization in defense industry (in terms of foreign investment). Sanchez-Andres (1998, p. 248) gives an estimation that foreign investors managed to buy a significant part of design and production assets of many key aviation companies like “Tu” airplanes, “Mi” helicopters, and other companies due to the lack of the proper control. It resulted in drop of total output of companies with foreign participation by 90%. Foreign “investors” do not look for developing competitor, rather destroying it. Since that moment the mass privatization based on the companies’ initiatives practically stopped.
However, government initiated some privatization processes even in 2003-2005, but the major part of them was initiated, predetermined and carried out by directive from above.

Summing up, the privatization was initially aimed at improvement of the economic performance of the companies. However, as privatization was extending to a substantial part of the defense industry, the fall in production continued and even accelerated. In 1992 it was 82%, in 1993 - 69%, in 1994 – 45%, in 1995 – 38%, and in 1996 – 31% of the 1991 level (KUZYK, 1999). Privatization, therefore, failed to solve the problems of the industry.

**Decrease of the state order.** For decades the state had provided special subsidies, access to investments and credits, tax, export and import allowances, and specific forms of remuneration for military-related companies. In 1991 this system disappeared. Owing to severe defense budget cuts, there was a drastic drop in state orders, i.e. the national armed force did not order new weapons. By the end of 1991 many companies across country were left without the state order for 1992. The situation in 1993 was the most shocking: the sudden reduction of the state orders three times less than planned (ETKALO, 1999). Besides, the reduction was announced at the end of the year, when the Ministry of Defense has already placed the orders and the companies were finishing the production. Some part of this order was already supplied. In 1994 defense budget of the Russian Federation allocated about US$2 billion dollars, in 1995 – around US$ 3.4 billion, and in 1996 – US$ 19 billion (JOHNSON, p.49). The increase was only in nominal value, while in real value the defense budget was decreasing due to inflation effect. Besides, the structure of the budget was not in favor of producers: the share of army maintenance was increasing, while the share of equipment purchases and R&D was decreasing. The lack of state financing lead to the fact that in 1997 the military-related output represented almost 90% drop compared to level reached in 1991.

Besides, during the first years of transformation the defense industry suffered almost complete lack of orientation in arms production. At the beginning of each fiscal year, the Ministry of Defense placed the state arms orders, but – owing to financial problems – the sums traditionally paid in advance were not provided, and even worse – the delays in the payment of outstanding debts appeared. A few orders were placed, but were not paid. According to estimates of KARACHAROVSKY (2001), the debt for unpaid 1994 orders amounted to 90 million dollars. Some companies even refused execution of the orders under such conditions. In addition, military companies had an enormous “social assets” including houses, social infrastructure, medical institutions, sport facilities and other infrastructure, which they had to support, especially in “closed cities”.
Moreover, the financial difficulties of the companies were provoked not only by major cuts in defense budget, but as well by new state fiscal and tax policies. For example, the Value-Added Tax was contributed to the companies only after 5-6- months after export sale. Companies with permanent lack of financial resources could not have waited such long time. The scientific researches and R&D, mainly financed from export incomes, were also imposed by income taxes.

All these factors posed serious financial problems to the companies of the sector. With a view to overcome such situation, the enterprises asked commercial banks for loans at high interest rates; when companies eventually received state money, the sources were redirected to pay debts incurred with the banks. This burden became heavier, which in turn created problems of survival. Unlike other countries (KISS, 2001) the privatization process did not provide with the possibility of foreign investment, which could have been used for reorganization purposes and products investments, thus helping companies to minimize the risk of bankruptcy. All this lead to the fact that every fifth company in the sector in 1995 was bankrupt or close to bankruptcy.

The result of the defense budget cut can be summarized as follows: according to official statistics, the situation was such catastrophic, that military budget have met not more than 35% of requirements for purchase of new weapons, research, design, and testing in 1995 (JEN-MAJ; ANISIMOV, 1995). In 1996, this number reduced to 30%.

**Changes in state’s export policy.** The defense industry companies, faced the absence of military orders and worsening prospects for domestic demand, were forced to switch to export arms, considered as powerful and highly profitable way to obtain vital financial resources. But this was complicated by the breakdown of traditional economic ties with buyers from former Soviet Union and Warsaw Treaty members, which caused the loss of traditional export markets. The companies met difficulties in finding the new buyers because other international markets were quite competitive. Besides, the political restrictions on arms trade were much stricter than in the past. In addition, there was a significant lack of marketing experience.

On November 25 of 1993 was signed a decree on the creation of Rosvooruzhenie, an organization which plays as a state military exports-imports intermediary agency and groups the majority of military exporters. Rosvooruzhenie was designed as an independent commercial organization not subject to subordination to any governmental structure or Ministry. The main goal of this entity was to promote and coordinate the military exports activity. The company was granted an exclusive right to export Russian weapons. Before this, 12 enterprises had had this right on the basis of licenses from the Ministry of Foreign
Economic Relations (MFER). The largest of these companies were the Oboroneksport foreign economic association; Spetsvneshtekhnika; the Voentekh firm set up by the Ministry of Defense; Promeksport, which was part of the Russian Committee for the Defense Industry system; and the Central Administration for Collaboration and Cooperation (MACC) of MFER. Rosvooruzhenie was created as union of Oboroneksport and Spetsvneshtekhnika, while Voentekh and MACC lost the right to export; Promeksport was allowed only to fulfill previously concluded contracts (KUDASHKIN, 2000, p.38).

In May, 1994 the government resolution "On Granting Enterprises the Right to Participate in Military-Technical Cooperation between the Russian Federation and Foreign Countries" (KUDASHKIN, 2000, p. 218) was signed, and it granted Russian defense companies to carry out export activity and defined the conditions for defense enterprises to obtain export licenses for their production. However, some problems arose. First, the international market requires high quality and fulfillment of obligations, which was complicated due to the loss of production capacity and gaps in supply. Second, the world armament market by the beginning of 1990-s was quite saturated and divided between main suppliers.

On August 21, 1997, the President of Russian Federation Boris Yel’tsin changed the system of military-technical cooperation with foreign countries at the suggestion of Viktor Chernomyrdin. It was transferred to the prime minister's control. Along with Rosvooruzhenie, the right to arms exports was given to Promeksport and the new state enterprise Russian Technology (sale of production licenses for Russian armaments). All these structures were state intermediaries in arms exports.

As a result, the sector suffered from this inconsistency of state policy. This policy was constantly changed and varied from total liberalization to the reinforcement of control.

**Institutional structure of the industry.**

**Governance of the sector.** Based on the many demands from the representatives and management of the defense companies, the Government tried to elaborate different military doctrines and programs, but, unfortunately, they were very largely declaratory and inconsistent, as well as did not give any concrete instructions, parameters and directions. In particular, the role of these new decrees as the orientating agents of the process could be argued. Basically, these doctrines included some obviously necessary steps about reforming of the army and defense sector, but were partially introduced or completely unfulfilled, hence, playing minimum importance and not meeting the expectations of the sector. The promises on focusing on modernization of the military equipment and increase in financing were unredeemed.
In addition to lack of consistent doctrine and program, there was a permanent confusion in the governance of the sector. That is, the official body responsible for the management and governmental policy was frequently dismissed (name and function), as well as officials responsible for implementation of the state policy. The name and level of responsible committees were constantly changed.

The Russian Committee on the Defense Industry (Roskomoboronprom), responsible for all defense industries and their commercial and military activities, was established in October 1992. It also coordinated the activities of many industrial ministries, state committees, research and development organizations, and factories and enterprises. This Committee became the successor of the former Soviet Military Industrial Commission (VPK). In September 1993 the State Committee on the Defense Industry (Goskomoboronprom) replaced Roskomoboronprom. In May 1996 Goskomoboronprom was given wider functions and became separate Ministry of the Defense Industry (RYBAS, 1998, p. 37-42).

In March 1997, the Ministry of the Defense Industry was dissolved and most of its functions were delegated to the Ministry of Economy (ME). In June 1999 new reorganization took place: the manufacturers were united based on their final product under the four state agencies. These agencies were reporting to a new government commission on defense-industrial issues headed by Prime Minister. However, in June 1999 new Commission on Defense-Industrial Questions was created.

As it can be seen, the unclear and confusing situation on the state level with permanently changing sector’s leaders and departments remained during a long period of time. According to Zubkov (2006), this resulted mainly from a constant struggle between several groups. The first one was constituted by Ministry of Defense and military officials, which were in favor of high military expenditures in order to maintain army needs. Another group consisted of defense’ sector representatives and directors of enterprises, which also claimed for higher state order and higher expenditures for R&D. When industry’s leaders and military officials managed to join their forces, sometimes it gave positive results. However, in fact they were mainly conflicting, as military officials were insisting on the allocation of small order but on many enterprises, while enterprises were asking or higher R&D expenditures and large contracts for each of them. The third group included civilian officials that considered military demands as excessive and used their control over the Ministry of Finance in order to cut military expenditures and transfers to the enterprises of the sector.

This complicated the activity of individual manufacturers, as changes were introduced frequently and without clarity. The hierarchical level of responsible agency was changing
from agency to Ministry, the responsible minister and heads were fired for mismanagement, the functions and authority were concentrated in one organ or distributed among many agencies, the companies did not know whose directives they should follow. The creation of separate agencies in 1997 based on final product created a problem for those companies that produce mixed military product.

**Decentralization and lost of control.** The collapse of a centralized administration made a contribution to the creation of a chaotic situation in Russia. The pace of changes and very rapid transformation made the companies face a lot of difficulties, connected, primary, with the fact that they had for the first time to deal with issues that were decided for them before: the volume and composition of production, the search for new buyers, supply of raw materials, investment and financial resources. Beside this, privatization became the decisive mechanism of an important transfer of decision making to the companies, based on the reduction of the central control over the privatized companies and strengthening of the decision-making capacity of their managers. In this context, although it did not solve the problems of the enterprises, privatization did encourage the rise of decentralization.

For example, the break-up of former subordination to “parent companies” and failure of the central command system gave the companies the right to choose the supplier, to establish the price, to perform their own policy and act more or less independently in frames of established restrictions. On the other hand, after massive decentralization processes some companies realized that it is very difficult to survive on one’s own, especially in cases when the connections and interrelations with necessary research centers and suppliers were disrupted. The majority of decentralized companies were small in scale, which allowed them to produce only small series of the products, or they need substantial sources to develop their production.

All this lead re-centralization efforts in the second half of 1990-s and to the mass creation of the financial-industrial groups (FIG), the vertical-integrated structures, joining mainly companies, banks, research centers, suppliers of raw materials and components, trying to preserve the network ties created within Soviet Union. However, as pointed by some authors (SANCHEZ-ANDRES, 1995; JOHNSON, 1997; MENSHIKOV, 1999) the efficiency of their functioning was under question, as each participating company which constituted FIG was independent, and the main problem was the coordination and elaboration of a unified policy. Another key point was the attraction of financial resources. It was assumed that the banks would perform this mission. However, by that time Russian bank system was so underdeveloped and not reliable for long-run, that there were a very few success cases.
One success example of re-integration could be RSC “MiG”. By 1999 this corporation practically did not exist, only formally. It consisted from managing company, serial plant, and design bureau. All of them were independent companies and were waging an unceasing war among them. After changes in management and appointment of Nikolay Nikitin the company managed to recover in 3 years and became the first fully vertical-integrated aviation construction company combining design, marketing and productive facilities and winning significant export contracts. It carried out rational diversification and became the second large independent military exporter after state export agency (PUHOV, 2002).

Summing up, the most common pattern of decentralization that occurred in Russia included wide decentralization of the major company into small units (as subsidiary units or as independent companies) on the first phase. The next stage is described by important internal lack of coordination in parent and subsidiary company, as well as impossibility to re-adjust the technology of the main company or buy and adapt a new one. The real challenge was to reorient pre-existing companies to become more competitive in a market economy. Another important issue was the need to find new distribution channels, adapt and develop new marketing and sales’ policies. All this explains the inefficiency in activity of decentralized firms, which lead to re-centralization and re-integration efforts of the companies, which were less strong than before. This impact was not as significant for state companies, where decentralization processes have affected mainly secondary production activities, thus, not blemish to large extent the activity of the parent defense company. In turn, central defense companies were helping small companies with financial, production, or organizational support.

**Regional factors.** One of the reasons of sector’s deterioration was the lack of lobbying opportunities. Military sector was not always sufficiently presented in the government’s structure. Defense industry was mainly on the periphery of the political-economical processes, the main actors of which were constituted by bank groups and large oil companies.

Because of the lack of governmental support and clear regulation, the focus from state switched to regions. The enterprises and local governments became much more interrelated than in the past (IZYUMOV et al., 2002). In the Soviet period the regions’ wellbeing was directly related to the prosperity of their dominant enterprises, over which they had a very limited, if any, influence. In new conditions the enterprises facing the indifference of state were forced to apply to local governments, mainly in search for lobby for state order and help in renting out unused production facilities and empty premises. The regional authorities were
also interested in promotion and lobbying of the companies in order to avoid social crisis caused by massive lay-offs and get the taxes incomes from sales abroad.

**Organizational structure and managerial aspects.** The main problem of the transition from managerial point of view was that managers who were trained to operate in an administrative-command system have been unable to recognize the need for fundamental change in behavior with the introduction of the market reforms, and have been more concerned with preserving (and even expanding) their own personal power and wealth than with the survival of companies. The managerial style of the Soviet system was not conducive to making fundamental changes required for restructuring. Some directors of the companies were still hoping the reception of the subsidies from the state, thus, expressing resistance to the change and unwillingness to restructure their companies in order to become viable. They believed that difficulties with state order were only temporary and after some period of time the government will re-start massive expenditures. Thus, they considered their primary goal to preserve production facilities and personnel. There were number of companies that considered that the state is responsible for keeping the companies working.

On the other hand, there were companies that lost their hope in state’s power and counted on more pragmatic course which basically included diversification and development of new projects. These companies (especially those that found the niche on the world market) preferred that state let them act on their own. Several defense-related companies carried out successful restructuring projects, principally thanks to their dynamic management and favorable external market (MENSHIKOV, 1999). Some were trying to attract foreign investors and establish joint-ventures with foreign capital. As a result, on later stages the management’s attitude and decisions taken at company’s level started to play a major role and gained a lot of importance.

Thus, one positive effect brought by all transformation process was that the decision-making capacity of the some defense organizations increased. The companies remained on their own in a struggle for survival; this situation created a basis for exploring new possibilities of organizational restructuring, especially in private companies. The transformation has brought the new governance structure in which managers formally answer to board of directors and shareholders rather than to governmental or party structures.

**Conclusion.** The macroeconomic crisis in the country followed by the collapse of the Soviet Union was unexpectedly long: the GDP, industrial production and investment decreased, while the budget deficit, foreign trade deficit, external and internal insolvency, unemployment and inflation kept increasing.
Table 2.2 - Macroeconomical, institutional and microeconomical aspects of the defense industry’s functioning in 1990-1999

<table>
<thead>
<tr>
<th>General policy of the state</th>
<th>Institutional structure</th>
<th>Organizational structure and managerial aspects</th>
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<tbody>
<tr>
<td>Frequent changes of governmental policy</td>
<td>Many companies have been privatized and reoriented to the civilian production;</td>
<td>Due to overall decentralization, all the</td>
</tr>
<tr>
<td>Failure of the main reforms: conversion and privatization</td>
<td>Many companies did not have orders and were on the edge of bankruptcy;</td>
<td>companies were forced to manage all activities</td>
</tr>
<tr>
<td>Decrease of the state order</td>
<td>The major cooperation contacts were broken and then followed by integration efforts</td>
<td>on their own, which in many cases lead to</td>
</tr>
<tr>
<td>Absence of consistent policy in export activities</td>
<td></td>
<td>improvement in management and performance.</td>
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As presented in the Table 2.2., in the course of the almost 10-years period of reforms the state’s policy towards defense industry has changed its direction several times. In 1992 and later on the government cut significantly military budget. This was followed by the massive conversion and privatization programs, none of which has achieved its goal in large scale. It is absolutely clear that during the first several years after the Soviet collapse the government had no coherent policy on how to reform and preserve military industry. Some declarations and press releases gave the evidence that Russian government and military leaders were not so blind to the problems of the sector, but the concrete and adequate measures were not implemented. In the same manner, between 1992 and 2000 the government policy towards exports of Russian armaments was changing from restrictive to liberal and back to restrictive almost on an annual basis. The responsible governmental body has been going up (Ministry level) and down (Department or Committee) in the hierarchy. In addition, after the collapse of the Soviet Union there coordinating and controlling functions were passed to different state agencies, but none of them defined and represented the sector’s interests efficiently. The sector’s structure and condition which formerly were shaped by external political forces became shaped principally by spontaneous, external market demand. The state agencies, which in turn were in the constant process of reorganization, were unable and unwilling to assist the companies’ struggle for survival, mainly interrupting and complicating the activity of the enterprises or cooperating with those that managed to survive on their own in order to receive some benefits. The frequent changes in government and sector’s governance structure did not bring any major changes in defense industrial policy. Such state authorities’ indifference pushed some companies to struggle for survival.
In spite of existence of external factors which should have caused restructuring processes, the majority of the companies were waiting for state’s help, assistance and limited occasional subsidies (especially as bankruptcy procedures in practice were hardly implemented and the risk of failure remained rather theoretical for most companies’ managements), while only the most far-sighted company managers realized that such strategy could have worked only for short-term, and tried to carry out major transformation processes. On the other hand, the general underdevelopment of economic texture made these restructuring efforts and introduction of reforms extremely difficult.

Thus, the companies’ individual survival efforts turned out to be a stronger shaping force than higher industrial or state interest. To my evaluation, the only positive effect of transformation and lack of state control was that companies that managed to survive and find a marketplace developed necessary managerial skills for further success. However, in spite of existence of successful examples, by the late 1998 the bulk of the defense-related companies in Russia were still struggling with serious economic and financial problems. They had high levels of debt, unresolved internal structural problems, insufficient domestic and foreign orders, and, despite several waves of redundancies, still significant overemployment.

2.3 Second stage: 2000-2006: reinforcement of the state control and establishing of the hierarchy
**General policy.** This period is characterized by the set of processes occurred in the defense industry which included the improvements of the companies’ situation due to 1998 financial crisis, increase of state order and exports, and reinforcement of state control over military exports and companies’ activity.

Basically, by 1998 the destiny of the majority of defense companies was determined: some of them found niches on the world market and showed prospects, some were converted into civilian production, and some did not exist anymore.

1998 became the turning point for many companies by easing their situation: the decline in the industry bottomed out around 1997 and was completely revised after the financial crisis and devaluation of the ruble in 1998.

However, right after the crisis many defense companies suffered major losses (sharp decrease of state order, delays in payments for already supplied equipment to the state), connected with collapse of banking system. The dollar earnings of some export defense companies were blocked on the transition accounts of banks that were providing services to the defense companies. Some enterprises did not have access to these highly liquid sources that they needed to pay taxes, suppliers, salaries.

However, after some time the crisis stimulated the major impact of recovery of the defense companies. The ruble\(^1\) to dollar ratio before the crisis was 1:6, while after the crisis it reached around 1:32. Thus, export defense companies received the sales amounts at least 5 times higher (MAKIENKO, 2006). At the same time, the civilian products of the defense companies (especially electronics, domestic equipment) cost relatively less due to the higher price of imported goods and were given preference by Russian customers. Thus, the deep devaluation of the ruble increased the competitiveness of Russian military exports along with civilian products of the defense industry sold on the domestic market, and created conditions for its possible revival.

This brought the enterprises the necessary resources to carry out investment and modernization programs, cover outstanding debts, and extent production (see Table 2.3).

|------|------|------|------|------|------|------|

\(^{1}\) Russian currency
Further, the tragic events in Yugoslavia and USA’s intervention have strengthened positions of Russian Federation on the world market. Other events that were helpful for Russian companies were the NATO bombardment of Serbia and the resumption of the military campaign in Chechnya in 1999-2000. These two events strengthened the defense industry lobby in Moscow and led to significant increases in the Russian military expenditures in real value. The major change in the international situation brought about by terrorist attacks in the USA and wars in Afghanistan and Iraq has strengthened even more Russian positions on the foreign market.

As a result, the companies that had the access to the world market and exported abroad, took the additional advantage and basically were in much better situation than non-exporting companies.

**Increase of the defense budget.** From the end of 1990-s it became clear that defense budget will be increased and Russian armed forces will be modernized. This meant the increase in military order and growth of production.

For the first time since 1992 the state order in 1999 was almost wholly financed. During the next years the state order has been increasing as well, even in real value. In 2002 the Government has paid its debts of 1996-1999. Right after the appointment of Vladimir Putin to the post of the President of Russian Federation he declared the forgiveness of the defense companies’ debts to federal budget. This was considered as quite essential step recognizing that the major part of these debts arose from state’s non-payments of placed and executed orders. After a while, the Government announced that it will pay off its indebtedness to defense enterprises (SHVAREV, 2003).

During the first three years (1999-2002) of increase in military expenditures, the sources were mainly aimed at maintenance of the current personnel and military force of the army, thus, focusing mainly on salaries and provision of basic weapons and uniforms. However, during 2003-2006, more substantial resources became to be extracted for important scientific researches and realization of the new projects. In 2005, 33.6% of the state order was directly aimed at scientific researches. In the same year, the state military order for first time in the Russian history was higher than military exports.
However, some features of the state order till nowadays are not designed to improve situation in the sector. According to the legislation, the state order can be placed only within the company where the majority block of shares pertains to state. In this situation, the competition for better prices and quality is limited only to the state companies. Thus, state companies do not have incentives to improve production because they do not have competitors, as well as private companies do not need to improve quality because they can not rely on state order. Accordingly, if a private company has better technology and price, it can not compete for state order. This situation is completely absurd in terms of stimulation of R&D and provision of the army with the best solutions.

**Increase of the state control.** Since 2000 state intervention in defense industry was becoming more active and apparent, when state agencies found a new role redistributing defense and procurement budgets, as well as large external orders’ incomes. Some reorganization took place again. These changes were accompanied by reorganization within state system. In order to force control and hierarchy, five agencies responsible for certain divisions of the industry were created. The post of Vice-Premier on defense industries was introduced within the Government structure. For the first time after the liquidation of the Ministry of the Defense Industry, the structures responsible for the restructuring of the sector were introduced.

For companies, the major changes were introduced in two aspects:
1) control of export activity
2) further privatization of state companies, deprivatization of private ones, and further consolidation into holdings

**Increase in military exports and changes in export policy.** As it can be seen from the Table 2.4, since 1998-1999 Russian military export started to grow substantially every year.

<table>
<thead>
<tr>
<th>Table 2.4 - Russian military exports in 1994-2004, billions of dollars, in current prices</th>
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<td>Currency income</td>
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The structure of military exports was shaped in 1998-2000 and till now is not efficient. Geographically, China and India were responsible for the major part (around 70%) of Russian
military exports for the last 7 years. In terms of nomenclature, the share of aviation (and mainly “Su” fighters) in total exports was varying from 50 to 90%. Even in 2006 the share of aviation sector was quite big – more than 50% (V 2006 GODU ROSSIYA POSTAVILA OCHEREDNOJ RECORD PO PRODAZHE ORUZHIYA – 6.5 MLRD DOLLAROV , 2007).

However, Russian weapons have changed its positions on the world market. At the beginning of 1990-s, the companies were struggling to recover their positions on the old markets, while nowadays Russia has already recovered these positions. The markets that were closed some years ago (as those of Venezuela, Mexico, Kuwait, and Malaysia) give preference to Russian weapons. Some other countries from Latin America (Argentina, Brazil) are starting to show interest towards Russian weapons. At the same time, the traditional markets (India, China) continue buying Russian weapons (MAKIENKO, 2004).

Besides, in 2005 the Russian armament export for the first time since the collapse of the Soviet Union exceeded USA’s export. Russia became the major exporter of weapons in the world.

The success in sales at the end of 1990-s was mainly due to the devaluation effect that brought necessary financial resources for export companies, efforts of the companies and their successful restructuring.

Meanwhile, the Government seeing the big amounts of exports and currency receipts has decided in 2000 to control all these financial flows of exporters and change its policy towards exports of the weapons. The only way to do this was to establish a monopoly for exports of the military techniques through the creation of the sole state agency (special exporter). Only this agency has the right to represent state’s authorities, thus, obliging all the companies to perform export activities through this agency.

Here we should see how the state export policy was changing over the decade of 1990-s. Basically, it was varying from full liberalization to complete protectionism. Till 1994 existed the sole participant on the world market – the state agency “Rosvooruzhenie” - which performed all Russian export activity. Since 1995 the right to sell abroad was given to many companies and other state agencies. This process was interrupted by the strong lobby of the special exporter that was putting a pressure on licensing departments in order not to prolong export licenses. By 2000, only six companies (RSK “MiG”, concern “Antei”, NPO Mashinostroeniya, KB Mashinostroeniya, KB Priborostroeniya and TsKB MT “Rubin”) and two more state agencies (“Rossijskie Tehnologii” and “Promeksport”) remained as allowed to export.
Three special state exporters were divided by the final product. “Rosvooruzhenie” was selling the weapons produced by defense companies, “Promeksport” exported production that was in ownership of Ministry of Defense, while “Rossijskie Tehnologii” was selling defense and dual-purpose technologies abroad.

The existence of three intermediary agencies was not efficient. First problems appeared when contract combined export of weapons with transfer of technology. Another problem was that “Promeksport” was in evident competition with dominating “Rosvooruzhenie”.

Such situation could not remain the same. In September 1999 Sergei Chemezov was appointed to the head of Promeksport. On November 4, 2000 the President of Russian Federation issued a decree #1834 “On Creation of Federal State Unitary Company “Rosoboroneksport”, which joined two existing state agencies into one (Rosoboroneksport) on the base of Promeksport and Rosvooruzhenie (SHVAREV, 2003). The official motivation was that it was necessary to put an end to competition of two main special exporters.

Starting from this decree, with the exception of six enterprises that had the right to export their products independently, the entire defense industry could have operated on the foreign market only through Rosoboroneksport. Intermediary agency “Rosoboroneksport” started to determine which equipment to recommend to a potential customer and which factory will execute the order. Therefore, the head of Rosoboroneksport was given even more power to control what goes on in the industry than governmental officials. Besides, a new agency was given a unique right to create and control all necessary for military export financial and organizational infrastructure: insurance and transport companies, banks and manufacturing facilities.

According to the decree, “Rosoboroneksport” became the sole state agency able to export and import the military production and to define the state policy on the world market. However, the export right of other 6 independent companies was not denied officially.

From the point of view of legal declared authorities, those six companies and “Rosoboroneksport” were equal and had same rights and power. In reality, these independent companies and “Rosoboroneksport” were in absolutely unequal situation. Companies have faced many difficulties trying to realize the right to export.

2 The most demonstrative was the case with Indian tender-2000 for delivery of a special weapon system. “Rosvooruzhenie” has spent substantial financial resources carrying out preliminary marketing and pre-contract activity. The request for delivery from India as a result of this work was received and transferred to “Rosvooruzhenie” for execution. Then absolutely suddenly “Promeksport” offered to India the same product with 15% less price compared with price stipulated by “Rosvooruzhenie”. Source: Korotchenko I., “Promeksport protiv Rosvooruzheniya?”, 19.02.2000, http://www.ng.ru/politics/2000-09-19/1_against.html
Up to 90% of export deliveries were concentrated in “Rosoboroneksport”. Besides, this state agency had a special legal status. Its organizational statute was approved by the President of Russian Federation. According to its statute, “Rosoboroneksport” comes under the powers of the Government of Russian Federation and is vested with a wide range of administrative powers. That’s why the administrative resource lying behind these powers can not be compared with lobbying capacity of independent companies. As a result, such inequality provokes monopolistic competition (KONETS GOSUDARSTVENNOI MONOPOLII?, 2002).

Besides, “Rosoboroneksport” seeks after suppression of export activity of independent exporters by unscrupulous means. It is not the secret that Committee on Military-Technical Cooperation with Foreign Countries (KVTS) used double standards in allocation of foreign orders. Under decrees of this Committee, independent exporters were prohibited to export to some countries. Moreover, the Committee created administrative barriers for entering of independent exporters on the markets of the countries where the positions of “Rosoboroneksport” were weak or compromised. Due to these measures, state export agency has suffered various failures in India, Malaysia, South Korea, Brazil, Indonesia and other countries, in most cases due to its policy of non-admission of participation of independent companies in tenders. That also explains why Russia exports its major part only to two countries (China and India) and did not manage to attract many new customers.

However, these failures did not reach special attention, and the efforts of the government to control export of defense production continued. There were various examples of individual exporters’ discrimination. For example, the contracts of “MiG’ corporation were transferred to “Rosoboroneksport” without company’s approval. NPO Mashinostroeniya was refused to obtain the renewed export license. As a result, since 2002 all Russian defense companies were forced to carry out export activity through “Rosoboroneksport”, and former independent exporters had lost their export right (PUHOV, 2002).

In spite of such strategy, it is necessary to understand the importance of independent exporters by looking at detail analysis of a geographical structure of Russian export. On the one hand, the share of independent exporters in Russian military export was not high – not more than 10%. On the other hand, only they managed to sign large contracts with countries beyond “Indian-Chinese” segment. For the first time after the collapse of Soviet Union, they realized the opening of new markets like Greece, United Arab Emirates, and South-Eastern Asian countries. Besides, only NPO Mashinostroeniya which acted as an individual exporter, managed to be the first company that concluded a cooperation contract, which implies
strategic alliance. Strategic alliances on the world armament market accounts for the major part of all export-import activities among developed countries. Thus, it turns out that main successes were performed exactly by individual exporters, and not by state export intermediary (AVILOV, 2004, p. 30).

Receiving much reclamation from managers about insufficiency of the system of a sole exporter, the Government decided to give a little allowance to defense companies. In November of 2003 the right to export spare parts, components and additional equipment (as after-sales service) was given to 14 companies. The official position gave high importance to this issue and claimed that this decision will stimulate long-term relations between manufacturers and customers of the military equipment, as well as will allow directly conclude contracts on modernization of sold equipment. Of course, taking into consideration that spare parts and components correspond only to 4% of Russian defense export, or around US$ 80 million per year, the state export agency is not willing to carry out necessary documentary work when larger sums of contracts on military export are easy to achieve (NOVICHKOV, 2004, p.3).

Moreover, the right of Rosoboroneksport to be the sole participant on the world market was finally stipulated. In December, 2006, the President of the Russian Federation Vladimir Putin has issued a decree that authorizes “Rosoboroneksport” to be the sole exporter of final weapon production since the 1st of March, 2007. This decision expanded even more hierarchical and economical authority of the state agency. The companies still can sell spare parts and components and perform after-sales service for sold equipment. The official position is that “[…] the decree will allow avoiding internal competition among Russian producers of the armaments on the world market” (STANOVAYA, 2006). Besides, such an exclusive position of the “Rosoboroneksport” based on the statement that no one Russian company have the possibilities to sell effectively abroad, while the sole company will be advantageous due to several economic reasons. It will be able to successfully carry out unified policy on the world market, integrated advertising and marketing strategy, creation of representative centers abroad, thus, minimizing the expenses of the companies.

This decree became just an official acknowledgement of the state’s policy. Basically, the companies did not have the right to export since 2002, when export licenses (that by that moment were in force) were not extended due to different reasons.

The reason why the decree took so much time to be issued is explained by the resistance from companies, the Boards of Directors of which were headed by very influential people. That’s
why two years ago Vladimir Putin opposed export monopoly, saying that independent producers need more favorable conditions to be created.

This obviously reflects the strengthening of the position of the head of “Rosoboroneksport”, Sergey Chemezov. The economical influence of “Rosoboroneksport” is increasing with purchases of machine-building, shipbuilding companies and car producers initiated by Chemezov (V 2006 GODU ROSSIYA POSTAVILA OCHEREDNOJ RECORD PO PRODAZHE ORUZHIYA – 6.5 MLRD DOLLAROV, 2007). Besides, he actively lobbies the transformation of the “Rosoboroneksport” from the state unitary enterprise to state corporation, which will significantly increase his autonomy from the state and decision-making authority.

Evaluating this decision, it can be important to observe the experience of foreign countries. They use mainly two approaches to export activity of domestic defense companies. The sense of the first approach is that manufacturers know their counteragents, partners and competitors better than intermediary structures, and aimed at establishing of long-term relationships. That’s why they use intermediary services only on the phases of delivery and custom clearance. Sometimes they are able even to carry out these duties by themselves. Such a system is adopted in France, for instance. The second approach used in USA and Great Britain reflects centralization trends and implies control over military exports by special intermediary agencies. Besides control, these agencies preserve state’s interest and carry out necessary functions like investments in defense industry and provision of export guarantees and subsidies (KONETS GOSUDARSTVENNOJ MONOPOLII?, 2002).

However such a scheme is possible only in terms of effectively functioning intermediary agency that does not give the priority to its own interests, rather works for minimal commission rates and do not create bureaucratic barriers for sellers.

**Institutional structure of the industry.** According to Smirnov (2004, p. 35), the process of the creation of different vertically-integrated structures can be basically divided into two major flows: by state command (“top-down integration) and spontaneous “bottom-up” restructuring. Spontaneous “bottom-up” restructuring occurred mainly in 1995-1998, and the process was mainly finished by 2000. The “top-down integration” took place during this period as well, but met some difficulties and was reinitiated since 2000.

**Bottom-up integration.** Some private companies had performed a successful integration. As it was said in previous chapter, during the first years after the disintegration of the Soviet Union, companies quickly became independent and decentralized. After a while, companies in a search to join forces and resources have started “spontaneous” integration, uniting mainly
design bureaus, production facilities, and banks. Some of these new structures did not succeed in effective reallocation and management, and were tending to decentralization again. However, some integration efforts were successful. For example, “Irkut” corporation became private company with effective management, diversification of military and civilian programs. It was the first company from defense sector to list its stocks on the stock exchange and manage to attract foreign direct investment.

**Top-down integration.** First “top-down” corporations were created in aviation sector due to its major export contracts and large revenues. By 1998 the creation of Military-Industrial Complex “MAPO” (the producer of “MigG-29” fighters), Aviation Military-Industrial Corporation “Sukhoi” and Concern “Antei” (systems of anti-air defense) was finished with different extent of subordination to head company. The companies that were subject to integration were state companies or joint-stock companies with 100% state capital. This integration meant mainly “de jure”, declarative joining, when the companies remained legally independent. The managing head companies of integrated structures promoted the export activities and lobby on federal level (SIDOROV, 2004, p. 22).

Strel’nik (1999, p.25) claims that by 1998 it became apparent that the majority of the created structures did not manage to become effective economical actors with rational long-term strategy. The competition between oligarchs and bureaucratic groups also played a role. The constant conflict between managing company and joined companies took place inside of the created structures. “MAPO” suited its managing company, Design Bureau “Sukhoi” and Komsomolsk-on-Amur Aviation Production Association were conflicting with Aviation Military-Industrial Corporation “Sukhoi”, which they joined.

The main problem of state companies besides the unsatisfactory management was that they (unlike private companies) were unable to attract financial sources in addition to export and domestic orders. The main source of these funds is stock exchange, where companies with state control can not be listed on stock exchange.

After some unstable period due to crisis in 1998, the efforts on “top-down” forcibly integration were reinitiated. The new pattern presumed an obligatory privatization of the state companies with state’s major share and obligatory subordination to the managing company. Besides, the government initiated deprivatization and nationalization of private companies.

**Privatization.** In August 2003 the new round of privatization process of Russian defense companies was announced. The goal of it was the creation of self-organizing and self-

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3 the case of Aviation Military-Industrial Complex ‘Sukhoi’ is explained below
regulating industry’s holdings. The official plan prescribed the creation of 40 large holdings by 2006.

The first privatization process, as stated above, gave a lot of freedom for many companies that performed privatization based on their own initiative. The second privatization process assumed more forced character, i.e. was initiated by the Government without taking into consideration the opinion of industry’s leaders. However, the process had begun even before the official announcement and some large companies have already undergone prescribed privatization procedures by 2003. Another important characteristic of this reform was that government was privatizing not only the state companies, but also those that were already private.

The results were impressive: stipulated companies were privatized, but only 4 out of 40 holdings were created (BABKIN, 2004). All four companies represented financially healthy companies with large export contracts and firm position on the market, which, according to the initial purpose of privatization (to improve financial and production performance of the privatized companies) did not need this to happen.

The government named the main reason of failure of holding idea as unwillingness of companies’ directors to be privatized and to be joined into holding. For example, holding “Contzern PVO “Almaz-Antei” was created in 2002. The joining of the radio-plant to the holding was made by the decision from above, even without taking into consideration the opinion of the management of the company. Besides, the thoughtless joining of the companies lead to competition between integrated companies for financial sources, allocation of the incomes and costs.

In addition, many officials and military representatives unfamiliar with the realities of market relations in defense industry rather than companies; directors and designers occupied the positions in the board of directors of created structures.

It can be concluded, that from absolute chaos in governance of the sector in the period of 1992-1999, the defense industry was becoming more controlled and regulated since 2000. More and more rigid vertical of authority and centralization render not that much stabilizing, but rather conservation and preserving effect. The defense industry, which should serve as a locomotive for economy and create technological base of a new economy, still remains at its 1980-s level. And such a situation will remain as the officials alienated from realities of production will manage the sector. They are not able to carry out a successful restructuring of the sector owing to their incompetence in economy and manufacture process.
2.4 New stage: Creation of the United Aviation Construction Corporation
While governmental officials were developing programs and concepts of further restructuring, the companies, lacking in adequate state program, were trying to solve problems by themselves. With efforts of economic actors – owners of private companies, top-managers, banks and other institutions – the situation in defense sector has changed radically compared with 2000.

The process of the spontaneous “bottom-up” integration was finished. In 2000 the creation of vertically-integrated RSK “MiG” was finished. By 2003 Aviation Holding Company “Sukhoi”, NPK “Irkut”, corporation “Tactic Rocket Armament”, “Aerocosmic Equipment” and Baltic United Shipbuilding Company have concluded their formation. Basically, the only company that was formed with active state’s participation was AHC “Sukhoi”. In other cases the initiatives were carried out by the management of the companies, or by owners, or by external actors.

The main accent was made on consolidation of productive facilities and design bureaus in united companies. It was assumed, that large economic entities are able to compete more effectively on the world market and possess wider opportunities practically in all spheres: R&D, marketing, optimization of the production process, modernization of main facilities etc. Besides, the merger of design bureaus with productive plants would let overcome the bottleneck of the old Soviet system, when research centers were separated from production facilities (BAZOVYM VARIANTOM STRUKTURY OAK RASSMATRIVAETSYA HOLDINGOVAYA KOMPANIYA, 2004, p. 21).

In 1999 two main approaches to further restructuring of the sector appeared. The first one was reflected in “Program of restructuring and development of defense industry for the period of 2002-2006”. The second proposed the creation of the United Aviation Construction Corporation (UACC).

**Khlebanov’s deprivatization program: creation of two competing aviation holdings.** The **first approach** was approved at the end of 2001 by the Government and till 2004 remained the main official doctrine document describing state politics on defense industry’s restructuring. The program assumed the creation of limited number of 40-50 vertically integrated companies (holdings) in all sectors of the defense industry (VERETENNIKOV, 2004, p. 20). The main reasons for creation of holdings were the necessity to eliminate parallelism and duplication of productions, liquidate competition on the world market and creation of financially strong structures. The document openly declared the priority of the state’s governance over the private initiative. That is, the integrated companies that would be created will be under state’s control and will have priority in state’s order distribution and in obtaining export contracts.
The major changes were supposed to occur in aviation sector. On the first stage (2002-2004) the creation of vertically companies of the first level based on the former Soviet brands – “MiG”, “Sukhoi”, “Il”, “Tu” – was assumed completed. However, these assumptions have already caused some anxiety on probable partial deprivatization of private companies. For example, it was supposed that NPK “Irkut” would be joined to “Sukhoi”, while only 14,7% of Irkut’s shares were controlled by “Sukhoi” and the rest pertained to private investors. Corporation “MiG” was supposed to include company “Sokol”, that was completely private. Besides, it was claimed, that two major aviation vertical holdings would be formed: one will join “MiG”, “Tupolev” and “Kamov”, the second will unite “Sukhoi”, “Ilyushin” and “Mil”. Such structure would allow joining resources and developing new projects; while at the same time will let save competition for state’s order and avoid monopoly.

The Program contained some concrete instruments of deprivatization process. According to document, it was necessary to perform the re-estimation of intellectual property that was used by all companies, even by private ones. It is evident, that the major part of intellectual property was developed in Soviet period, and, accordingly, pertains to state. The re-estimation of the nominal value of intellectual property (certainly, upward revision), would have let the increase of state’s share in the private or partially private companies.

However, the overloaded Russian bureaucracy did not manage to carry out this plan: in 2003 Ilya Khlebanov, who created the idea, lost his vice-premier post. Boris Aleshin was appointed on his place. Aleshin’s ideas were completely opposite and radical to those of the precursor. **Aleshin’s plan: unite all companies in one.** Right after his appointment, Boris Aleshin started to claim for more radical variant of aviation industry’s consolidation, which anticipated the creation of one aviation-building corporation – United Aviation Construction Corporation (UACC). The UAC was supposed to be created by the 2007 and without intermediary stage of formation of first-level integrated structures.

During the rest of 2003 the active work on UACC’s plan was carried out. According to the presented doctrine, UACC will join all economic actors working on aviation R&D and serial production independently their ownership type.

Poroskov (2004) claimed that the distinctive and to some point revolution issue of the plan was the intention not to deprivatize companies as in Khlebanov’s program, but to leave in the state’s hand only the blocking share holding, thus assuming mostly private ownership. The main purpose of UACC was to eliminate internal competition and competition on the world market. The internal competition among engine producers, spare part producers, and electronics manufacturers should be remained.
However, the initial UACC project did not contain developed instruments of industry’s consolidation. Probably, mainly to that fact the creation of the Corporation was postponed till 2005-2006.

Some representatives of the sector supported this idea; others did not. However, all they shared the opinion that three hundred enterprises of aviation sector can not survive in terms of lack of orders from Ministry of Defense. This meant that restructuring was needed. Inaction can provoke the loss of the whole industry. The main efforts of the companies were spent on internal competition, access to state funds and competition among Russian companies on the world market. This is a complete nonsense from the point of view of state policy. Unfortunately, in those conditions the system, when the government really manages the process in aviation industry and economically influences these processes, was not created. Further existence in its 2000-condition and in terms of absence of governmental support contradicted with rationality and has no prospects.

The objective of the government in relation to aviation industry as a whole was to create conditions and develop the sector’s infrastructure that promotes military security of the state and competitiveness of the branch on the world market in terms of transformation to non-resource model of economical growth.

Without creation of a new model of relations of state and private business in aviation military and civilian sector, without implementation of a new system of project management and related resources management it is impossible to discuss the recovery of the Russian positions on the world market.

After the delay, a more developed variant of UACC was elaborated. At the same time, the critical situation of the sector was reproducing itself, thus, proving that governmental interference is needed. That’s why in 2005-2006 the initiation of the project was requested by the main state’s leaders, especially by President of the Russian Federation, V.V. Putin.

According to this request, Russian Aviation-Cosmic Agency together with Ministry of Production and Science has developed a concept of construction on the basis of aviation enterprises of a “United Aviation Construction Company”.

According to the project, the creation can be done within 2 years, until 2008. The project implies to unite military and civil aviation producers in order to consolidate the financial, technological and intellectual resources around certain perspective programs (for example, the program of development of aviation fighter of new (fifth) generation), what will allow to compete with other countries on the world market (BELYAKOV, 2007).
The reform-concept is based on the experience of European countries, such as Germany, France and Holland. These countries developed their own aviation-construction companies and joined the assets of their companies into the sole corporation; Airbus. Within the first twenty years, Airbus outperformed American “Boeing”. The same idea lied behind the creation of EADS, a European holding that produces civil and military techniques. Boeing went through similar restructuring process in 1950s. Basically, all these countries nowadays have the only one main producer of civil and military aviation equipment. Canada and Brazil also have such corporations – Bombardier and Embraer, respectfully.

As for Russia, the creation of a united corporation should be finished by the end of 2008. The main objective is the construction of a united corporation as a result of coordinated actions of the government, aviation industry and owners of aviation assets. This corporation will become the sole actor eligible for relations with foreign customers and cooperation partners. It will also coordinate all research and development and promotion of the final production on the international market.

According to authors of the project, there are a lot of reasons standing for such restructuring:

1. **Critical situation** with producers of civil aviation and used airplanes. Compared to other machine-building industries, civil aviation during last 15 years has suffered the major losses. Before the collapse, Soviet Union was producing around 80 airplanes per year, thus, occupying, according to different estimates, up to 20% of the world market (Zayko, 2005). Nowadays, Airbus produces about 300 airplanes per year, and Boeing produced 290 airplanes in 2004. At the same year 4 largest Russian civil aviation factories produced 7 new (!) airplanes (the minimal level of sustaining level of production for one factory is at least 6-10 airplanes per year), in 2005 – 8 new airplanes (2 of which were initially provided for Cuba), in 2006 – 8 (Litovkin; Hikmatov, 2004). (For comparison: Boeing and Airbus produce the same quantity in a week).

All producers of civil airplanes suffer major debts, the directors are forced to produce non-specialized production, the best personnel tries to find new opportunities in other sectors, and fundamental researches have been stopped. The enormous size of the sector and companies-ballasts hinder the development of the sector and scientific potential. The civil sector, unlike the military one, did not have competitive product and was not able to find a niche on the world market.

Nowadays, Russian civil airplanes are bought mainly by Russian companies; only some are sold to the developing countries. However, the majority of Russian airlines companies prefer to buy foreign planes. According to the official data, 26 used foreign civil airplanes were
purchased by Russian air companies in 2005, the major part of which had been in use for more than 10 years (OAK VVELA SANKTZII PROTIV SShA?, 2007). According to the project, the UACC creation will let to produce about 120 civil airplanes per year by 2013 in Russia.

The project claims that civil aviation will most benefit from joining of the companies. It is planned, that the share of civil aviation in whole aviation output will reach 45-50%, that is, seven times more than nowadays. The Government also possesses an optimistic view of 5-10% share on the world civil aviation market. First results would be seen in 2007, when the total number of produced airplanes will at least double. However, the major part of them will be exported to China, Zimbabwe and Cuba (U AVIAPROMAREZHUTSYA KRYL’YA, 2007).

2. **Unreasonableness of having several enterprises producing the same machinery.** For example, there exist a very limited number of producers of civil airplanes in the world, while in Russia there are at least 7 plants and all of them can pretend and have capacity to be leaders.

3. **Obsolete equipment of internal airlines.** Nowadays, there exist 185 internal airline companies in Russia, which possess in total around 2500 airplanes and helicopters. The existing airplane’s fleet is very obsolete, the majority of the airplanes should be written off: the average age of long-haul airplanes reached 18 years, regional airplanes – 30 (!) years. In total, 88.2% of airplanes in exploitation were produced in 1980-s, 4.1% - in 1990-s, and 7.7% correspond to foreign airplanes. The obsolescence and reduction of aviation fleet is approximate to 10% per year (ZUBKOV, 2006).

At the beginning of 2005 Russian Minister of Transport Igor Levitin publicly recognized that the half of exploited 5 thousand civil airplanes can serve only as sources of spare parts: “Russia has come to the edge when crisis in aviation industry started to threaten national safety⁴”, claimed him (CHUBAHA; STARIKOV, 2006).

In 2005 Russian airlines have leased 26 used foreign airplanes. New Western airplanes are still much more expensive compared to Russian analogues (especially including customs duties and taxes), but in future these expenses would be recovered by less exploitation costs (current repairs, fuel). The Russian new airplanes till now are better in prices⁵, but designed at the late 1980-s they do not meet modern market requirements and other characteristics

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⁴ 2006 has two major airplane catastrophes, more than 300 people lost their lifes. The accident with Airbus A-310 in Irkutsk killed 124 people. The crash of Tu-154 near Donetsk claimed the lifes of 170 people.

⁵ For example, new Airbus A-320 costs around 70 mln. dollars. The price of seven-years used Airbus A-310 is 35 mln. dollars, while the new Tu-204 (analogue of -310) costs the same price.
consumption of fuel\textsuperscript{6}, economy, comfort and security). However, the tendency to price increase is evident. The low wages on Russian enterprises do not allow low prices, because the productivity is also low. As a result, the price of a new Russian airplane taking in consideration future expenses is 30-40\% higher than Western airplanes. However, even now it is evident that the airlines prefer to pay more for Western analogues, than to buy Russian new airplanes.

In order to force the companies to buy new Russian airplanes and not import used foreign ones, the management of UACC put forward the idea to change the system of customs duties for foreign airplanes. The Ministry of Defense and Head of UACC Sergey Ivanov claimed that import taxes for new Western airplanes should be stimulating, and for those that have been exploited for more than 10 years – prohibitive. Import taxes for new foreign airplanes should be decreased in accordance with existence of Russian analogues: those foreign models that do not have Russian substitutes, will have the lowest import tax. If the same model would appear on the internal market, taxes would be raised immediately in order to protect Russian producer.

Besides, the necessities of the Russian market by 2015 are estimated as 340-400 civil airplanes. Foreign experts augment this estimation up to 620 airplanes. Even if Russian airlines will buy only local airplanes, the market price will be around 7.5 billion dollars, which is obviously insufficient for financing of current projects.

Nowadays the management of the United Aviation Construction Corporation is asking the airlines companies to disclose their plans on fleet’s renewal in order to define its own product range and quantities. However, some companies have expressed the worries that the airplanes listed in official offer of the UACC do not meet technical requirements of the airlines (KATALIZATOR DLYA SNIZHENIYA POSHLIN, 2007). This means that the types of airplanes (like Boeing-747) that airlines are planning to buy, are not produced in Russia and are not presented in official list.

4. Excessive facilities in military and civil aviation. The facilities, that were created during Soviet period and provided the production for the whole Soviet Union and other countries, do not correspond with present necessities and financial possibilities of the companies in Russia and on the world market.

5. Lack of financing. The termination of the current programs (5-th generation military fighter, SSJ regional jet, modernization of the Russian Army’s Aviation Forces) will require

\textsuperscript{6} The share of fuel costs in total cost do not exceed 25\% for foreign airplanes, while in Russian airplanes correspond to 50\%
till 2010 at least 5.2 billion US dollars, while all export incomes and budget financing can provide only 2.9 billion. However, other estimations are given at the same time. For the last 5 years the government has made subsidies to aviation sector at around 600 million dollars. According to project, in the next 10 years around 20 billion dollars will be invested. Another sources claim that only 10 billion dollars would be spent till 2015. As claimed by authors of UACC’s idea, lacking 2.3 billion of private and foreign investment can be attracted only by effective and transparent company, such as UACC.

6. Internal competition. Today in Russia there are three main producers of civil airplanes; “Il”, “Tu”, and “An”. Each of these companies is now trying to develop the project of a new civil airplane: Tu-334, MS-21, MTA, An-70, Tu-330, none of which is wholly financed. The three companies heavily invest their own financial resources into the same projects. The Russian state assists by funding of these projects even though they compete with each other. The authors of the concept of UACC claim that it would be better if they will unite their efforts and financial resources together. The management of the UACC will choose the most appropriate project and finance it, but not distribute finance on three relatively same projects. The similar situation occurs in military aviation. The situation, when Russian companies compete with each other for foreign contract, is not rare. The UACC will be able to perform an adequate marketing policy on the world market in order to achieve the best allocation of the foreign contracts for Russian producers.

7. Lack of new technologies. Even though Russia still has some Soviet technologies and develops new ones, the gap in some areas (such as modern electronics, engines, radio and radar systems) is obvious. Besides, the implementation of modern information technologies is limited, while the production of modern machinery requires utilization of the digital technologies on the all stages of technological process. UACC will allow participation and cooperation with foreign producers in order to overcome this obstacle and adopt new technologies.

There already exist some companies with essential share of foreign capital. In order to attract additional investment after UACC’s creation, some amendments were introduced into Law on State’s Regulation of Aviation Development (ZUBKOV, 2006). Now the participation of foreign partners is not limited by 25%, but also “by President’s decision”. This will allow to create large share holdings, as well as joint ventures with 50/50 shares.

8. Today the business is going a little bit better in military sector. But without external demand, the situation of military producers would be the same. In the process of creation of UACC all the enterprises would be audited in order to construct more rational production
structure. The main problem is that accumulated capacities of all enterprises are in great excess compared to real necessities and compared with needs for realization of current and perspective projects. Besides, almost all factories that produce the final product have the whole production cycle which includes all technological processes.

9. **The possibilities for small and medium companies.** As claimed the Head of the Federal Agency on Industry Boris Aleshin, nowadays the aviation companies perform a range of production activities in terms of closed productive cycle (GLAVA ROSPROMA HOCHET RESTRUKTURIZIROVAT' OAK, 2007). Boeing, for example, outsource major part of secondary productive functions (like engine production) to small and medium companies. Thus, restructuring of Russian aviation companies and elimination of excessive and secondary productions will allow competition (choice, better quality and lower prices) and will help small businesses and suppliers.

The **main purpose** of UACC is the creation of a competitive united corporation as a result of coordinated actions of state, aviation sector, and aviation companies. The main priorities are the development, production and after-sales service, modernization of civil and military techniques, and implementation of new aviation technologies and developments. The corporation would act as the sole participant and only it can have relationships with foreign customers and partners. It will also carry out the management of all research and development and promotion of the finished goods on the external markets.

According to authors of the concept, UACC will also allow to improve the management and control over the system. The UACC will be created in three stages:

1) **On the first stage** all aviation (civil and military) holdings (like “Sukhoi”, ”Tu”, ”Il”, ”MiG’”) will be united after asset evaluation. Their respective design bureaus will be also joined into the main R&D center, which will be responsible for all scientific research.

2) **The second stage includes formation of four independent business-units (divisions) within the UACC – Military Aviation, Transport and Special Aviation, Civil Aviation, and United Service Centers.** It is assumed, that on this stage the restructuring and elimination of excessive assets will be carried out, thus helping to avoid internal competition and close not-used production capacities. Those enterprises that will not join UACC will be closed or will be changed to produce other types of consumer goods. On this stage UACC will be governed by the Board, which will define the internal and external policy

3) **The third stage assumes that the creation of the holding company will be finished, the share of the state will decrease (it will have only the blocking packages of shares), the company will start to sell shares to private domestic and foreign investors.** The structure of
management will have classic form, including Management Board, Shareholder Committee, and Directors’ Board. It is supposed to save the world famous brands of existing factories. The UACC will also have its own scientific-technological, training and experimental center. The Management Board will deal with marketing, choosing of the projects for state financing, lobbying of the sector’s interests on governmental level etc.

State’s participation. The initial project assumed that the government will have only the blocking package of shares (25.5 %), and 49% will be sold to foreign investors, without whom the profound investment would not occur. The latest version of the project states that the government will obtain 51% of shares, thus, controlling the activity of the corporation. The reduction of state’s share could have place only on the later stages. The state’s participation in the corporation on the later phases will also depend on the final product of division: 75% for military sector, 51% - transport and special aviation, in civil sector it will not exceed 25% (MAGIDOVICH, 2007).

The project also implies that only half of 360 aviation companies would join it. Other factories will change the core activities. Some of them will produce different components and spare parts. The management of UACC will decide the destiny for every enterprise.

As a result the United Aviation Construction Corporation will join all necessary resources, eliminate parallelism in projects and allow participation on the world market with a unified strategy and with products that will have a realistic demand. Besides, the internal Research and Development, Training and Testing centers will be created.

In this way, the creation of UACC should allow achievement of the following positive changes:
- elimination of the competition on the external and domestic markets;
- strengthening of positions on the world market;
- consolidation of assets and resources;
- elimination of duplicating projects;
- inflow of financial sources, inclusively foreign direct investment;
- changes in production structure – orientation on civil products;
- scientific and technical progress;
- reduction in number and reorientation of unprofitable enterprises.

The real implementation of the project took a lot of time since the moment when the idea was initially given publicity in 1998. Only on 21\textsuperscript{st} of February 2006 the President of Russian Federation issued the decree on creation of the Open Joint-Stock Company “United Aviation
Construction Corporation”, and on 20th of November 2006 it was registered in tax authorities. The first meeting of the Board of Directors was held on 12 of December, 2006. The meeting elected the Chairman of the Board of Directors – Sergey Ivanov, the Ministry of Defense. Alexey Fedorov, with experience in many aviation companies (“Sukhoi”, “Irkut” and “MiG”) was appointed as President of UACC. Other members of the Board of Directors represent, mainly, state and military officials and banks’ representatives, rather than sector’s representatives. The Management Board, however, is consisted of directors of joined companies. The meeting claimed that the first stage of corporation’s formation is finished and by April of 2007 the creation of the UACC will be carried out with defined structure and participants (also private shareholders and their shares), finance mechanisms and defined top-priority goals.

The corporation united the assets of main aviation producers: Aviation Holding Company “Sukhoi” – 100% of shares, “Aviaeksport” Association – 15%, JSC “Iliyushin Finance Co” (leasing company)– 38%, KSC “Komsomolsk-on-Amur Aviation Production Association” – 25.5%, Interstate Aviabuilding Company “Iliyushin” – 86%, Nizhegorodskiy Aviabuilding Plant “Sokol” – 38%, Novosibirskoe Aviation Production Association – 25.5%, JSC “Tupolev” – 90.8%, JCS “Finance Leasing Company” – 58%, and JSC “NPK “Irkut” – 50.09% (see the Table 2.5). The market capitalization of the corporation was estimated around 96.72 billion of rubles (US$ 3.64 billion), but it can be changed with joining of other companies (such as RSC “MiG” and “Kazanskoe Aviation Production Association”, joining of which is predetermined) (SERGEY IVANOV IZBRAN PRESEDATELEM SOVETA DIREKTOROV OB’EDINENNOY AVIASTROITEL’NOY KORPORATSII, 2006).

Table 2.5 - Nominal Capital of the United Aviation Construction Corporation, as of 02.11.2006

<table>
<thead>
<tr>
<th>Company Description</th>
<th>Capitalization (bil. of rubles.)*</th>
<th>Share of company’s stock, transferred to UACC (%)</th>
<th>Share of the company’s assets in UACC capitalization (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aviation Holding Company “Sukhoi”</td>
<td>52,4</td>
<td>100</td>
<td>54,2</td>
</tr>
<tr>
<td>VEO &quot;Aviaeksport&quot;</td>
<td>2,0</td>
<td>15</td>
<td>0,2</td>
</tr>
<tr>
<td>&quot;Iliyushin Finance Co.&quot;</td>
<td>11,7</td>
<td>38</td>
<td>4,6</td>
</tr>
<tr>
<td>KnAAPO</td>
<td>38,0</td>
<td>25,5</td>
<td>10,0</td>
</tr>
<tr>
<td>MAK &quot;Iliyushin&quot;</td>
<td>11,9</td>
<td>86</td>
<td>10,6</td>
</tr>
<tr>
<td>NAZ &quot;Sokol&quot;</td>
<td>3,1</td>
<td>38</td>
<td>1,2</td>
</tr>
<tr>
<td>NAPO</td>
<td>2,7</td>
<td>25,5</td>
<td>0,7</td>
</tr>
<tr>
<td>&quot;Tupolev&quot;</td>
<td>4,0</td>
<td>90,8</td>
<td>3,8</td>
</tr>
<tr>
<td>FLK</td>
<td>8,0</td>
<td>58</td>
<td>4,8</td>
</tr>
<tr>
<td>NPK “Irkut”</td>
<td>25,0</td>
<td>38,2</td>
<td>9,9</td>
</tr>
</tbody>
</table>
As prospected, UACC will unite around 20 aviation companies specialized in civil and military aviation production, including 7 largest aviation factories and 5 biggest design bureaus. As a result, it will become the fifth largest aviation company in the world by market capitalization. The share of state participation is more than 90%, but will be decreased on later phases. After inclusion of the new companies the capitalization will be increased up to US$ 5.3-5.8 billion, and overall state’s share will decrease to 76-78%, and then to 75.1%. The plans also include listing on the Russian stock exchange by the end of 2007 and the IPO floatation in 2007-2008.

According to the Minister of Defense, the Corporation on the later stages would be divided into three divisions: military and fight aviation, transport and dual-purpose aviation, and civil aviation. The main priority would be given to civil aviation as it requires immediate action on the internal market and improvements in transport infrastructure. The transport and military aviation has more defined perspectives as well as placed orders. The foreign participation can take place even on the first stage – mainly, cooperation with EADS on civil projects.

The basics for the development of the aviation sector in Russia are defined by three criteria:

1) The “starting order” and model range - the quantity and models of the airplanes for domestic and foreign markets;
2) Amount of investment which will be aimed at optimization of the technological processes, their modernization and effective realization of the product plans;
3) Time limits. The government will define real terms during which the projected quantities will be produced.


3.1 Creation of the holding structures and “top-down” privatization (by the example of KnAAPO and Aviation Holding Company “Sukhoi”)

The second phase of privatization process was initiated at the end of 1990-s and was characterized by the strong desire of the government to control the most profitable companies.
The common pattern included privatization of state companies, creation of holding structures and transfer of control over the company to the holding structure and its managing company. The rationality of this process can be observed on the most demonstrative example of KnAAPO and Sukhoi holding.

As it was told before, the majority of strategic military companies were registered in a special list prohibiting their privatization, and KnAAPO was in among these companies. But in August of 1996 the President of Russian Federation Boris El’tzin signed the secret decree # 1268 “On creation of Aviation Military-Industrial Complex (AVPC) “Sukhoi””. This state unitary enterprise was created joining Design Bureau “Sukhoi” and four serial factories: IAPO, KnAAPO, NAPO, and TANTK named after Beriev. Three of these companies by that moment were already privatized at the beginning of 1990-s: Design Bureau, IAPO, and TANTK.

KnAAPO and NAPO were registered in a strategic list and, thus, avoided privatization. By that time KnAAPO was almost the only profitable company of the sector. However, the creation of the AVPC “Sukhoi” basically did not change anything in activity of the companies that joined AVPC. They still had almost total independence in defining all aspects of company’s activity.

In September 1997 the Prime Minister of the Russian Federation Viktor Chernomyrdin claimed that the privatization of the factory will not happen and promised to send the respective letter to the federal parliament (State Duma) (KONDRAIEVA, 2001).

But instead of this letter another document with completely opposite content appeared in State Duma. And on 27th of December of 1997 was issued the Government Regulation No. 1650 on exclusion of KnAAPO from the list of strategic enterprises not subject to privatizing, and on KnAAPO’s transformation to open joint-stock company. At the same time the state unitary enterprise AVPC “Sukhoi” was transformed into public joint-stock company with concurrent transmission of the control share package of KnAAPO to the initial capital fund of Open Joint-Stock Company “AVPC Sukhoi”. However, the 100% of “Sukhoi” shares remained in state property.

During his visit to the KnAAPO in November 19, 1998, a new Prime Minister Yevgeny Primakov promised not to let the plant to be privatized, and to provide it with foreign and state contracts (www.globalsecurity.org).

In 1999 the plans to privatize KnAAPO and NAPO were declared again. The new concept assumed that companies would become subsidiaries of Sukhoi, they will not control financial
part, and all export contracts will firstly pass through Sukhoi. Besides, this meant the appearance of a new hierarchical level – the managing company of Sukhoi holding.

It should be noted, that KnAAPO is the main city enterprise, and the budget of the region where it is situated consists on 50% from taxes and duties received from KnAAPO. The citizens of the city collected 20000 signatures in mass open message to Government against the privatization. The governor of the region, Viktor Ishaev, also actively opposed planned privatization. He claimed that 51% of company’s shares should be transmitted to the local regional government. He commented: “We can not entrust the KnAAPO’s destiny to federal structures. […] There does not exist any regional enterprise that is managed by these structures and operates normally“ (GUBERNATOR KHABAROVSKOGO KRAYA VYSTUPAET PROTIV PRIVATIZATZII KOMSOMOLSKOGO-NA-AMURE APO). General Director of the KnAAPO, Victor Merkulov, said that it was necessary to change the presidential decree on establishment of Sukhoi and to establish the holding not on the basis of the managing company of Sukhoi, but on the basis of the research and production facilities of the KnAAPO. According to Merkulov (MUKHIN, 2002), this measure would have created better investment climate, ensure clarity and transparency of the defense order fulfillment and will minimize the duplication of production facilities and managing structures.

In November of 2000 in terms of official visit to KnAAPO, President Vladimir Putin promised not to let privatization of the factory. Instead, he requested the preparation of the federal law “On completion of creation of the aviation military-industrial complex “Sukhoi” which officially prescribed the privatization of KnAAPO.

As a result, in 2003 KnAAPO was privatized. 100 percent of company’s shares were in federal property, 74,5% of them were afterwards transferred to the initial capital fund of AVPC “Sukhoi” (which was later renamed to Aviation Holding Company (AHC “Sukhoi”), and 25,5% remained in federal property.

The results of this privatization contradict with normal competitive development of the sector and companies that were affiliated to “Sukhoi” and will be discussed in the last paragraph.
3.2 Growth of the Russian defense export and establishing of the state monopoly in defense export

In 2006, the restructuring of the system of military export has given to the state agency “Rosoboronexport” an exclusive monopolistic right to sell the defense production abroad. The only items allowed to be exported by individual companies without applying to “Rosoboronexport” are spare parts and components. Even though it is declared in official documents that such a system allows strengthening of Russian positions on the world market and carrying out of a unified marketing policy (www.mfit.ru), it brings many difficulties to aviation manufacturers and other defense companies.
First of all, sector representatives complain that their interests are frequently affected by actions of “Rosoboroneksport” which interrupt relations between producer and final customer on the final stages, when the price is decided, thus, winning over some part of the revenue. The monopolistic structure got the possibility to extract very high incomes by increasing its commission, insurance, transport and overhead rates. As estimated by Vitebsky (2000), overall commission can reach 20% and more from the contract’s value. Besides, the commissions of foreign intermediaries of “Rosoboroneksport” and consultants can amount up to 30% from currency revenue. As a result, defense companies receive not more than 50-55% from the contract’s value. Moreover, after reception of this income they still pay to suppliers of materials and taxes.

Moreover, by 2000-2003 many companies have completed “bottom-up” restructuring and created vertically-integrated structures. They were able not only to successfully present and promote their production on the world market, but also to perform all stages of export process, and they have already proved it. Only them can develop and perform long-term market strategy basing on the analysis of their scientific and production capacities. This is especially crucial when taking into consideration that foreign customers are looking for close cooperation with final producer that are ready to adapt machines to customer’s requirements and carry out the whole range of services. The pre-contract work directly with producer allows effective negotiations and fast reconsideration if the terms of contract would be changed.

“Rosoboroneksport” significantly complicates price-making process. Like any monopolist, this organization strives to reduce the quantity sold, while obtaining a higher price. These professional traders are resisting desperately all attempts to dump Russian arms abroad that may lead to a fall in prices, as well as any efforts by arms manufacturers to become independent actors in the world arms market. All this together with high commissions leads to increase of price of Russian weapons on the world market (while in many cases it is the only competitive advantage of Russian suppliers), thus, worsening Russian positions in clients’ eyes.

It must be noted that the Defense Ministry - above all the Russian Federation Armed Forces General Staff - is a consistent opponent of the untrammeled export of state-of-the-art Russian weaponry, while “Rosoboroneksport” is currently promoting such sales. The top generals of the Russian Army do everything in their power to ensure that samples of the latest Russian armament do not end up in the hands of potential opponents. Indeed, Russian generals find
the sale of individual examples or small quantities of the latest weaponry to be especially unacceptable. The same applies to the transfer of military technology. Another fundamental reason, as justified by Stanovaya (2006), lays in fact that “Rosoboroneksport” never was and is not actually the true trading intermediary in the full sense of this word. An intermediary activity consists in rendering of juridical, consultant and trade services to the manufacturer in order to sell his production. The intermediary (commissary, agent), acting on the basis of the commission contract (trading assignment, agency service), is obliged to conclude contracts for delivery with the buyer on behalf and in interests of the manufacturer. Meanwhile "Rosoboronexport" firstly signs contracts with foreign customers and only then commission contracts with manufacturers of the equipment. This apparently insignificant nuance overturns all essence of the activity of the state intermediary, defined by the law. Instead of the organization, employed by the defensive industry for promotion of its interests on a foreign market, "Rosoboroneksport" became the self-sufficient office distancing itself from the needs of the industry and dictating to it its own terms and conditions. And what is amazing is that the developed state of affairs is not only admitted by the management of “Rosoboroneksport” as natural, but also is laid down as an official, publicly declared ideology. Moreover, besides dictation of its own terms, the state intermediary already pretends to manage enterprises and industrial cooperation. This includes the attempts to define head executors of the contracts, and also to appoint the companies for realization of shipment of spare parts, units, training and auxiliary products to military armaments delivered to foreign customers. “Rosoboroneksport” purposefully tries to achieve the inclusion of its management in management boards of defense holdings created with state intrusion. Already in 2002, the representatives of the “Rosoboroneksport” are present in management boards of largest companies such as AHC “Sukhoi”, Open Joint-Stock Company “Concern Anti-Aircraft Defense “Almaz-Antei” and others (DVOINYE STANDARTY “ROSOBORONEKSPORTA”, 2002). At all apparent logicality, such a system of the sole armament exporter is subject to a failure and is impractical from the point of view of economic efficiency. The monopoly in any sphere of business is ineffective and harmful, and this as an axiom in the majority of economic doctrines. The main consequences of this system include establishment of non-market, and, accordingly, inefficient relations and slowdown of technical and economical progress.
In Russian conditions, this will also result in inevitable reduction of the transparency, number of information sources in the sphere of military-technical cooperation with foreign countries and their availability, and as a consequence, impossibility of state and public control over the Rosoboroneksport’s activity. Even in 1990-s, the main source of information about military export and defense industry itself were information wars, occurring in virtue of competitive struggle for export orders or property. Unlike private defense companies, the majority of state companies use secrecy, hiding the difficulties in obtaining contracts or in their performance. Probably, they hide even the general economic parameters, real incomes from the state or from personnel. At the example of USA, Great Britain and France it is evident that the high level of transparency does not render a negative influence on defense export. In modern conditions of a competitive struggle among defense companies the quality of information policy is becoming a top instrument of a product promotion. With the presence of similar competitive products, the transparency of the financial information and parameters enable the client to choose the most predictable and stable partner. Besides, the lack of transparency can lead to non-admission to developed market, specialization on “marginal” countries, and absence of foreign investment. That’s why the administrative monopolization of the weapon export provokes total opposition not only among industry’s representatives, but also among government officials supervising this sphere.

However, the companies were given an exclusive right to sell abroad spare parts and components for delivered equipment independently. The reason of such decision is not the desire to give the possibility to act independently at least in one aspect, but rather complete disinterest of “Rosoboroneksport” in marketing of the parts and components, as it requires the same amount of the paper work, while incomes are much less. In any other business, a scheme “Rosoboroneksport – sale of weapons, manufacturer – after-sales service and components’ supply” would be attractive for manufacturer, because the supply of components and long-term after-sales service is usually as profitable, as sale of the product itself. However, in terms of military export, this scheme is effective only having large production volumes. In Russian case, the majority of enterprises should start production of spare parts and components from nothing, and this requires long-term investments. Moreover, the conflict of interests is occurring: the state intermediary, following the world practice of a competitive struggle and tendency towards contracts “sale and after-sales service”, will be compelled to include the price of spare parts to the contract’s value, thus, interfering with the company’s activity.
3.3 Critics of the United Aviation Construction Corporation’s project

The idea of UACC also did not meet natural agreement among the leaders of the aviation industry. Some representatives of the sector claim that the branch should orient to civilian projects taking in consideration European and American markets where the major part of such airplanes is sold. However these markets have been formed a long time ago and controlled by related states which take care about their own aviation industries. In these countries the technological cooperation was developed, the stable relations have been constituted, and Russian companies would hardly meet a desire to share technologies and orders.
Others take into consideration these facts and claim that it would be appropriate to orient on serving the traditional Soviet markets. This includes developing Arabic, African countries, and some countries of South-East Asia region. This market usually does not need high and progressive technologies (that is important for developed countries), rather conformance with international standards and provision of qualified after-sales service of sold equipment. In this case the creation of a developed after-sales support system on the customer’s territory is needed, which would also require large financial expenditures and investment. The advocates of this strategy understand that situation with Russian armament is complicated by the loss of Soviet power instruments. But Russian aviation equipment is still competitive in price. And there are many countries in the world that can not afford the purchases of the expensive civil and military airplanes and prefer to buy reliable, but inexpensive ones.

Of course 300 Russian aviation companies can not continue struggling for survival, and there is an obvious need for some restructuring. Taking into consideration all doubts and suggestions, the strategy of development of Russian aviation industry is going to be defined by United Aviation Construction Corporation. However, the measures that have already been undertaken and those that are planned, point out various inconsistencies and drawbacks in UACC’s policy.

First of all, the authors of the project claimed that the idea is based on the experience of the western companies like “Airbus” and “Boeing”. This comparison, at least, is not correct. First of all, the scale of restructuring and orientation on international experience should assume quite long term of reforming process. Like in Russia, the aviation industry in Europe suffered the reduction of the share of military production from 70% to 30% and reduction of the state order from 55% to 27%. However, the restructuring process in Europe took place during 22 years, while in Russia – only 5-7 years (KAK SFORMIROVAN USTAVNYJ KAPITAL OAK, 2006). Almost all directors of aviation companies share the opinion that the process may take long period of time. Only assessment of the companies’ assets can take more than 2 years. This is especially crucial for companies with small share of state’s participation, where it is necessary to define the share of the state in intellectual property.

Secondly, the main difficulties will arise when state companies will be integrated with private companies. The privatization processes on different enterprises had different paces. As a result, there is a number of private companies (like “Irkut” with state’s share less than 14%), and there exist completely state-owned companies, like RSK “MiG”. In order to unite their assets, elaborated mechanisms of property transfer are needed. Only such mechanisms will allow to create normally functioning integrated structures. If assets of private companies will
remain under the control of the previous owners, then a conflict of interests may occur. The process of integration is not clear as well. Till now Russia has not developed normally functioning mechanisms of evaluation of the assets, intellectual property, real estate, etc. Moreover, the creation of corporation can worsen the situation of those companies that will not join UACC. This can happen due to the fact that the state order will be distributed only among those enterprises that will be united within UACC. Thus, the companies that will not join UACC, will not be able to carry out large development projects.

Besides, the authors of the project absolutely ignore the fact that aviation plants and design bureaus are just a part of the whole aviation industry, and beside there are enterprises producing engines, composition materials, aggregates, different instrument and electronic devices, etc. Moreover, the questions about restructuring of each company, creation of a leasing, distribution and after-sales system should be thought out. Another worrying aspect is that UACC is not going to include leasing companies, while it is absolutely necessary that leasing companies (that carry out leasing of used civil airplanes) will join UACC. Leasing companies should not loose the contacts with producers, as they act in Russia as intermediaries, helping both aviation manufacturers and airlines that buy the production. This scheme has already proved its efficiency. Besides, it corresponds to international experience of creation of leasing companies within aviation enterprises. The examples include Boeing Capital Corp., General Electric Capital Aviation Services, Airbus Asset Management and United Technologies Finance (STARIKOV, 2007).

Third, the joining of resources – intellectual, production and financial – should happen around certain programs as it happened in Europe. The concept of UACC does not imply this. The companies were united, and only afterwards it will be decided the product which will be produced by every company. The President of Association “The Union of Aviation Engine Construction” Viktor Chuiko claimed: “We have been talking about the creation of the UACC for five years. At the same time it turns out that the main goal of UACC is not the elaboration of a program based on marketing researches, but how to convert the assets of all companies to unified share” (CHUBAHA; STARIKOV, 2007). Thus, we can question the strategic goals and perspectives of such restructuring.

The claims that UACC will eliminate competition among Russian producers, reject development of programs of similar types and segments, and strengthen the positions of Russia are doubtful. The State Defense Order is allocated as follows: every year some part is dedicated to “Scientific-Research and Experimental-Design Developments” (analogue of R&D works) that prescribe allocation of financial resources for certain projects, according to
Federal Target Program “The Development of Civil Aviation Equipment in Russia for 2002-2010 and for the period to 2015”, approved on 15th of October 2001. Exactly this program established subsidizing of several similar projects for development and production of equipment. So, in this case the reconsideration and change of the Federal Target Program and suspension of subsidizing of the unnecessary projects, not the restructuring, is needed in order to eliminate duplicated projects. Moreover, the competition among different companies will even grow inside of the corporation due to the fact that all development and designed bureaus will be joined, and this will not stimulate stable situation.

However some steps towards diversification and identification of the key projects were already undertaken. The key program on which would be based the main development of the sector during the next 10-15 years is SSJ (Sukhoi Superget-100) project. This is the project of a civil regional airplane with capacity for 75-95 passengers. The new airplane will meet modern requirements and standards on comfort, safety, reliability, and operational economy. In 2004 this airplane won the tender of the government of the Russian Federation for subsidizing its design and production development. The project assumes main cooperation with Boeing, Russian “Illyshin” (“II”) and with other companies. Avionics will be developed by “Thales” (France), control and life-support systems – by “Liebherr” (Germany), passenger saloon – by BAE Systems (Great Britain/USA), undercarriage – by “Messier Dowty” (France), and engine – with cooperation of Russian NPO “Saturn” and “Snecma” (France). The Aviation Holding Company “Sukhoi” had chosen its subsidiary KnAAPO as main productive facility. According to the terms of the tender, “Sukhoi” planned to produce first experimental plane by the end of 2006, and to start its serial production in 2007.

The authors of the UACC concept make a stake on this airplane. They claim that this airplane will become the base of the growth and development of Russian internal airlines. Besides, the size of the market of such airplane is estimated as 5400-5600 units till 2023, or around US$ 100 billion. “Sukhoi” is going to produce 700 units, thus, occupying relatively big share of the market. According to estimations of “Sukhoi”, 35% of SSJs will be sold to the North America, 25% - to Europe, 10% - to Latin America, and 7% - to Russia and China (SUPERJET V MOSKVE, 2007).

However, the rationality and success of this project can be put under question. First of all, in Russia nowadays there exist around 5 same projects of different companies. Some of them, like Tu-334, by the moment of the tender were almost ready to serial production. It possessed all necessary documentation, got favorable assessments on the
aviation exhibitions, and needed only to start serial production. What is the rationality of developing of a new project when similar and ready one already exists?

Secondly, “Sukhoi” has chosen KnAAPO as a main plant for production of this airplane. From the point of view of engineering, it is absolutely out of logics, as this plant during last 20 years was producing in large scales only military airplanes. The serial military production is very different from civilian one. The modernization of the plant and reconfiguring of it for the needs of civil production has already consumed a lot of scarce financial resources. By 2005, only technical modernization for the needs of civil production has reached US$ 87 million (AVIASTROITELI KNAAPO ISHUT PUTI VYVODA PREDPRIYATIYA IZ PRORYVA, 2006). It would be more logical if the production of a civil airplane would be placed on excessive assets of one of six major civil airplane factories that remain almost without orders and any production.

Thirdly, knowing the critical situation with obsolete airplane equipment in Russian airlines companies, it is absolutely unclear why the Government has decided to transfer resources for production of the airplane that would be focused on the world market and not on the Russian one.

As for Russian share of SSJ-100, this airplane is claimed to be used by small airlines in old airports. However, due to technical parameters, it can not be used in old airports. The problem is that low position of the engines of SSJ-100 will not allow landing on the 80% of take-off runways due to their low quality.

Moreover, the evaluations to sell not less than 70% of produced SSJ on the world market seem overestimated. The world market nowadays has a demand for military airplanes, while the civil market is saturated or completely satisfied by four main giants: Boeing, Airbus, Bombardier, and Embraer. Boeing and Airbus control almost all market of long-haul airplanes, while Bombardier and Embraer possess 88% of regional airplanes market (NOVIKOV, 2004). Besides, the investment needed till 2010 only for this project were estimated as of US$ 920 million. Only US$ 304 million will be financed by state budget (STEPANOV, 2006). Even if all investment will be provided, the price of the airplane can be higher than competitors’ prices. The catalogue price of SSJ-100 is $ 27.2 million, while its direct competitor Embraer-170 costs only $ 23 million.

Moreover, the project suffers serious wrecking of the plan. It is planned to start serial production at the beginning of 2008. However, till nowadays only the fuselage of the airplane has been transferred to the Central Scientific-Research Aero-Dynamics Institute for first construction tests. And it is a commonplace that even if all test will be passed from the first
effort, the time needed from first flight till serial production is at least 2-3 years. This time is needed for development of all technological processes for serial production and adaptation of the airplane construction for production needs. This means that serial production can be started only in 2010. And this date was proven by the first deputy of General Director on civil programs Vladislav Kotovskiy (KOTOVSKIY, 2007). However, the General Director of the Aviation Holding Company “Sukhoi” claims that first airplanes will be supplied to Russian and foreign airlines in 2008 (LITOVKIN, 2007). Besides, the certification of the “Snecma” engines for the airplane is planned for March of 2008. Moreover, SSJ-100 model by 2010 will be out-of-date. As a result, hardly Russia will manage to sell that big amount of airplanes to foreign countries. This in turn will question the necessity of enormous investment (only in 2007 the budget will spend around US$ 222 million) directed to the project and the profitability of its production.

If we consider domestic market, Russian airlines due to the large territory need long-distance airplanes, analogues of Boeing 787 or Airbus 350. Basically, nowadays Russian companies have projects of such airplanes (MS-21) ready for serial production, and if necessary steps will be undertaken, such project can have a success, because the majority of Russian airlines are going to perform large-scale purchases of long-haul airplanes in 2007-2009. However, it seems that the management of the UACC do not consider Russian market as perspective one and did not announce any plans to produce or develop new long-haul airplane in Russia.

Besides, at the end of January of 2007 Russian Ministry of Economical Development and Trade German Gref announced that Russia will buy 53-seat airplane together with plant, technology and necessary documentation (LAVROV et al., 2007). The name of the company was not declared, but analytics suppose that the most probable seller is Canadian “Bombardier”. What is the purpose of buying a technology, if at the same time another one is going to be developed?

If we consider international aviation market, the machines that are of high demand is military aviation. It is enough to mention that nowadays importer countries possess the military aviation fleet of about 12 500 fighters, from which 8200 are already out-of-date. It was estimated, that till 2010 more than 3000 military fighters will be built, which accounts for around US$ 130 billion at the average price of US$ 47 million. The share of Russian military airplanes was estimated till 2010 as more than 1500 airplanes and around 500 helicopters. Moreover, civil and military aviation have their own development cycles. It is predicted that since 2010 major demand for civilian airplanes will be satisfied, while modernization of
military equipment will become urgent. And these estimations significantly contradict with plans of the authors of the project and measures that have already been undertaken. Meanwhile, government officials do not take into account such estimations and are going to stimulate mainly civilian sector assuming that situation in military branch is better, will have large demand in future and, basically, can survive on its own. Such a policy also needs some consideration. The fact is that nowadays Russia does not have any new product in the sector of military aviation, and sells abroad equipment that was designed in 1970-s and 1980-s (of course, this equipment is sold in modernized versions and with modern electronic equipment). The development of a new fifth-generation military fighter is in the process since the middle 1990-s, but, due to the lack of financing it is still in the phase of design development. At the same time USA has already started to introduce its new fifth-generation in its own army (MAGIDOVIICH, 2006). This can lead to the collapse of Russian military aviation export in the next five-seven years and loss of markets. The new product by that time will not be created.

As we can see, the confusion with the choosing of a right model that UACC will produce is evident. Let’s consider other drawbacks in UACC project. As estimated by the Head of Management Board of UACC Alexey Fedorov, the expenditures of about US$ 5,5 billion are needed during 2008-2012. Nowadays more than 50% of this amount is lacking. The management of the UACC relies heavily on private investors, but there is a doubt due to long term of payback. This long term is caused by long period of fundamental, research and development procedures needed for development of an airplane. Basically, the full cycle of an airplane production – from development till first final airplane – takes about 7-10 years. Military airplanes take even more time. Commercialization takes about 5 more years. As for foreign investors, they would hardly be interested in financing a competitor.

Two more negative consequences can be predicted. First, the concept assumes the creation of the united design bureau on latter stages. This means that companies will be forced not to use the world-famous brands like “Su”, “MiG”, “Tu”, and others. Second, the creation of a monopoly structure will result in choosing of the project not on the market basis. The government will lose the possibility to choose because the price and quality competitors will absent. The monopolist will impose what it has. Thus, the creation of a monopolistic structure contradicts with current antimonopoly legislation, limits competition and can turn to be a major problem for customers of aviation equipment. Moreover, a
monopolistic position of the corporation can increase the risks of worsening of production quality and can lead to uncontrollable increase of prices on aviation equipment.

In addition to monopolistic nature, the creation of such a structure contradicts with basic laws of market economy’s functioning. Specialists familiar to experience of mergers and take-overs know perfectly that mergers and joinings are the radical forms of restructuring aimed at growth of capitalization, economy of scale and improvement of financial and economical indicators. Accordingly, UACC will not bring any growth of capitalization, because the assets subject to joining are incompatible (inconsistent) and are not liquid in general. Due to this fact and common insignificant output volumes UACC will not manage to achieve economy of scale. The “golden rule” of mergers and take-overs assumes that they should be performed with economically and financially “healthy” enterprises. In case of UACC, “healthy” and “temporarily healthy” assets will be joined with “halt dead” enterprises.

Moreover, the specific features of corporation’s functioning are not given adequate attention. The restructuring processes with purposes of sector’s improvement should be carried out more carefully. According to the Russian experience, the most effective way of restructuring in defense industry is the creation of vertically integrated structure combining design bureaus, components’ producers, aviation producers, financial structures. The project of UACC implies only the unjustified integration of design bureaus and series factories.

The management of UACC also plans to perform share emission on the Russian stock exchange by the end of 2007 and IPO listing in 2008 in order to “[…]increase the recognition of the issuer” (POROSKOV, 2007). This is unreasonable. At this moment the capitalization of a corporation is estimated as US$ 3.6 billion. Compared to Western aviation producers and large Russian companies, this is not much. It is planned that the total investment to UACC till 2015 will reach US$ 10 billion. However, these sources can not be called as investment, rather financial subsidies. Investments assume return, and return is possible only when there is a demand on future production. Russian airlines are going to perform large purchases of Boeing’s and Airbus’ production, thus, the demand on Russian civil airplanes is questionable.

The structure of the company and the mechanism of reallocation of shares of subsidiary companies are not established yet. In this sense, the IPO listing of a practically not existing corporation as its primary goal seems at least strange. Normal companies spend a lot of years in order to improve its structure and transparency and obtain necessary capitalization before IPO. In order to carry out IPO it is necessary to have a company that produces a competitive product and has its market history. The main goal of the new corporation should be the optimization of research and development activities and production process. The company
should attract necessary resources with new technologies, developments, and not by speculations of the artificially concentrated assets on the international financial market. Rationally thinking, with surplus of financial resources inside of the country and permanent lack of internal investment the IPO emission can not be accepted as correct. At least this issue should not be considered as top priority goal.

The positions and managers of the United Aviation Construction Corporation also need some revision. First of all, the Minister of Defense of Russian Federation Sergey Ivanov is appointed to the post of the Chairman of the Board of Director. The conflict of interest arises again. On the one hand, Minister of Defense will manage and control the distribution of the state order within UACC. On the other hand, as a head of commercial company his goal will be to try to obtain as more finance as possible. Besides, any participation in board of directors of a commercial organization or any other type of business activity is prohibited by law for state or military officials.

According to all inconsistencies of the project listed above it is absolutely reasonable to suspect that the desire to join companies is aimed not at development of new products and improvements in aviation industry, but rather aimed at reallocation and consolidation of the control over financial resources that companies receive from export activity. This hypothesis is also supported by the fact that not all aviation companies will join UACC. The first companies that joined UACC were the companies that have firm export orders for the next years and more than stable revenues, like “KnAAPO”, “Irkut”, and RSK “MiG”.

The common disagreement of the project and resistance from representatives of the aviation sector also supports this idea. Alexandr Lebedev, the head of the National Reserve Corporation that controlled Voronezh Joint-Sock Airplane-Construction Association claimed: “I do not share government’s optimism about the creation of the UACC in 2007. The scheme of the UACC is not clear yet.” (LITOVKIN; HIKMATOV, 2006). The head of “MiG” corporation Valeriy Toryanin argued against the project and asked to delay the privatization of the company and its joining to UACC. Probably, due to this fact he was fired in September 2005. The project was also criticized by the Prime Minister of Russian Federation Michail Fradkov. Konstantin Makienko from recognized Center for Analysis of Strategies and Technologies, was even more direct: “The presence of orders, not the creation of “uaccs” stimulates growth. Till now I do not understand completely how creation of UACC can stimulate growth” (BELYAKOV, 2007).

It is obvious that the concept of UACC is not wholly elaborated and carefully defined. First of all, the final goal of restructuring is not developed yet. It is assumed firstly the creation of
holdings and joining of assets, and only then the product range and strategy of every company will be decided. Besides, the official program is limited only to the creation of holding without necessary further mechanisms and steps of development. Considering this, the reasonable question about perspectives of such joining is arising.

3.4 The impact of the reforms of 2000-2006 on the companies (by the example of KnAAPO)

The main directions of state policy in aviation industry in 2000-2006 were:

a) creation of the holding structures
b) establishing of the state monopoly in defense export and elimination of an independent exporters
c) creation of a United Aviation Construction Corporation.
Let’s observe how these changes influenced hierarchical structure and bureaucracy in aviation sector. In order to perform this analysis, let’s compare structure at the end of 1990-s and in 2006 as presented in Figures 3.1 and 3.2.

**Figure 3.1 - Hierarchical structure of the defence industry at the end of 1990-s**

The hierarchical structure at the end of 1990-s was quite simple: the companies, that had the right to export defense production, were negotiating with foreign customer directly without any intermediary structures. The control over their activity was performed by Commission on Military-Technical Cooperation. The companies that did not have the right to export independently, was performing export activity through state intermediary “Rosoboronexport”. Thus, the number of hierarchical levels between a foreign customer and final manufacturer was limited to one in case of the defense company without a right for independent export. This structure was quite effective and efficient, as allowed direct or almost direct dialogue between customer and supplier.

Compared to 1990-s, by 2006, a number of hierarchical levels appeared (see Figure 3.2). The creation of holding structures lead to establishing of managing companies. After that, all holdings were united into United Aviation Construction Corporation. Moreover, the monopoly of defense export was finally set up, thus, this hierarchical level is responsible for military export.
Such sector’s structure is a completely destructive from the point of view of state policy and aviation sector as a whole and in a worse case scenario can lead to the loss of aviation-building production. The decision-making process which already takes years, will get even slower. The necessity to sell abroad only through state intermediary will even more overload “Rosoboroneksport” with information, bureaucracy and paperwork. Even the companies that obtained the right of independent export of spare parts and components suffer difficulties. Every deal should pass all cycle of concordances in different Russian ministries, departments and agencies. This process takes around 2-3 years. Besides, all contracts should be signed only by ministers personally. The number of necessary signatures only in Ministry of Defense sometimes reaches 40 (LANTRATOV, 2004, p.12). The bureaucratic machine is so slow that efforts of defense enterprises in many cases are subject to failure.

The information flow will meet even more obstacles in virtue of many hierarchical levels. It will be concentrated on the top and the companies will obtain information in last tern. The focus will be switched from customer need to internal issues and requirements. Besides, such structure will create the situation when the authority will be diffused among different levels,
and even duplicated on different levels. Each level will remain to have internal and hidden competition for power, influence, and financial results. The authority has such a form, that it is dispersed, e.g. everybody is responsible for everything as a whole and nobody is responsible for anything particular. Besides, each level of structure has its internal and hidden competition for power, influence, and financial resources.

As a result, the number of hierarchical levels between foreign customer and supplier has extended to at least 3. Thus, the principle of efficient and fast cooperation – the main prerequisites of successful defense export activity – was ignored. The growth of the hierarchical levels will decrease managerial efficiency in terms of decision-making, information flow, bureaucracy, which is extremely important in terms of global economy. This, in turn, will provoke delays in contracts and worsening of Russian positions on the world market, thus, doubting reputation.

The malignancy of the restructuring process carried out during the last 6 years is obvious. It will lead to a sharp backlog of Russia in creation of perspective armaments and weapons and loss of its positions on the world market. It seems that decision makers have forgot that defense export is a business, and as every business, it is managed better by private companies with necessary level of control.

The sense of internal restructuring lies in switching to modern high-efficient management mechanisms, orientation of the whole complex on the final result, effective use of innovative, financial, scientific, technological, productive and human resources. As a result of such transition, the company develops well elaborated, scientifically and economically proved development strategy.

Let’s observe how the reforms of 2000-2006 have changed the companies’ activity and performance by the example of KNAAPO. The privatization and joining to the holding increased the number of hierarchical levels between KnAAPO and a foreign customer. One more intermediary level was added with privatization, thus, increasing the period that the order from a foreign customer to final producer.

As a result, foreign requests pass a long way. Firstly, the customer signs the contract with “Rosoboronexport”, the state intermediary signs another contract with AHC “Sukhoi”, and only afterwards AHC “Sukhoi” commit the execution of the contract to KnAAPO (or any other company of the holding). As a result the process is unduly slow down, especially when compared with foreign competitors.

With joining to the “Sukhoi” holding, the company can not anymore perform independent export policy. The director of KnAAPO claimed: “Our possibilities on promotion of military
airplane production on the market have sharply decreased” (DIVERSIFIKATZIYA PROIZVODSTVA NA KOMSOMOLSKOM-NA-AMURE AVIATZIONNOM OB’EDINENII, 2005). The companies can not anymore participate in international exhibitions, as all necessary decisions should be approved by the managing company of “Sukhoi”. “Sukhoi” determines completely the external policy of the holding: participation in international defense exhibitions, the methods of products’ promotion, allocation of orders, etc. Before privatization KnAAPO was participating in 3-5 international defense exhibitions every year, after – only in two-three that were mainly held in Russia. Taking in consideration the importance of participation in international exhibitions as one of the most effective instruments of promotion on the world market, we can conclude that affiliation of KnAAPO to “Sukhoi” undermined significantly the possibility of the former to carry out an independent policy on the world market.

Russia has already lost some perspective contracts due to such over-bureaucratic system. The tender in Brazil for 12-24 military aircrafts (opened in 2001) can serve as an example. “Sukhoi” participated in tender with its Su-35 model. The total sum of the contract was estimated around US$ 750 million (LATINSKAYA AMERIKA YAVLYAETSYA DLYA ROSSII ODNIM IZ PERSPEKTIVNYH RYNKOV, 2004). “Sukhoi” was competing with F-16 (USA), JAS-39 Gripen (Swissland), and Mirage-2000 (France). On a final stage, Russian “Su-35” was competing only with French “Mirage-2000”. After complex consideration of all offers and conditions, Military-Technical Commission of the Brazilian Ministry of defense concluded that ‘Su-35” was the best proposal (BRAZIL’SKIE SHANSY SU-35, 2002).

However, at the beginning of 2005 Brazilian government “frozen” the tender. To some point, it meant a failure for Russia. Of course, there is no necessity to list all the consequences and aspects lying behind this decision. However, one point should be meant. Brazil was constantly changing requirements and terms of the tender. This meant the revisal of all contract terms and conditions proposed by Russian party, which included technical characteristics, necessary components and additional armaments, modernization and after-sales service (BRAZILIYA POKA NE GOTOVA KUPIT’ SU-35, 2004). One of the reasons of Russian failure was bureaucratic struggle inside of the Russian defense sector, which complicated the readjustment of all necessary documents by the certain date and consumed a lot of sources which should have been spent on achievement of the goal.

One of the main goals of creation of an Aviation Holding Company “Sukhoi” was the elimination of internal competition. Two factories were joined to “Sukhoi”: KnAAPO and Irkut (former IAPO), which then started to compete firmly. Both were producing military
aircrafts of “Sukhoi” family. The “silent” rule of order allocation on these factories was the following: IAPO was producing two-seat Su-27UB and SU-30 models, while KnAAPO was selling other one-seat SU-27 series models, and two-seat Su-30MKK. Privatization created problems with this aspect. After privatization “Sukhoi” became responsible for the allocation of state and export orders among factories that joined the holding. That is, the Government and Ministry of Defense (in case of state order) or “Rosoboroneksport” (in case of export order) directs its request to the head managing company of “Sukhoi”. In turn, managing company selects the factory that will carry out the order.

Before privatization, companies were independently and successfully participating on the world market and performing export contracts, only sometimes entering into competition for the same orders. However, the competition was normal and based on technical characteristics, quality, price, capacity to produce airplanes instated period of time, etc.

After privatization this normal competition was eliminated, as the managing structure of “Sukhoi” started to determine the main executor of the contract.

As a result, Irkut were no facing any problems with obtaining best contracts and having its capacities loaded for the next 10 years, while KnAAPO was suffering major shortcuts and capacity loading. In 2004, for example, the company’s productive facilities were loaded only by 67% (EKSPORT ORUZHIYA POSTRADAL OT KRIZISA, 2004). Besides, in 2005 the total sales were 5 times lower than in 2004, sales revenue was negative, and the profitability was 0% (GODOVOI OTHET OTKRYTOGO AKTZIONERNOGO OBSHESTVA “KOMSOMOLSKOE-NA-AMURE AVIATIONNOE PROIZVODSTVENNOE OB’EDINENIE IM. Y.A.GAGARINA” ZA 2005 GOD). Moreover in 2005, due to lack of orders the enterprise was suffering 4-days working week, two divisions were working only 3 days per week; 2 500 employees were fired, in order to reduce overhead costs (KNAAPO SOKRASHAET 2,5 TYSYACHI RABOTAYUSHIIH, 2005). The plant’s capacities were load only by 25% (DIVERSIFIKATZIYA PROIZVODSTVA NA KOMSOMOLSKOM-NA-AMURE AVIATZIONNOM OB’EDINENII, 2005). Total output in 2005 fell 7 times compared to 2003 (AVIASTROITEI KNAAPO ISHUT PUTI VYVODA PREDPRIYATIYA IZ PRORYVA, 2006). In 2006 some divisions were still working on reduced work week. The decrease of production in 2006 was 64.4% compared with 2005.

In July 2001 a US$ 1.5 billion contract on construction of 38 military aircrafts Su-30MKK was concluded between “Rosoboroneksport” and Ministry of Defense of China (Minin, 2007). In November 2001 the Prime Ministry selected KnAAPO as main executor of the contract which had priority in sales of military airplanes to China due to various previously
performed contracts. This scheme was convenient for KnAAPO: the company received all contract sums excluding commission of “Rosoboroneksport”, and then was paying to design bureau, subcontractors, and suppliers of components.

However, this was in conflict with plans of “Sukhoi”. As a result, the Head of “Sukhoi” Mihail Pogosyan applied to Government with request to change the main executor of contract from KnAAPO to “Sukhoi”. This request was met and after a while “Sukhoi” transferred the execution of the contract to “Irkut” thus eliminating KnAAPO from execution of the Chinese contract.

By that moment KnAAPO carried out all necessary pre-contract work: the company has arranged a bank loan, concluded contracts with subcontractors and suppliers, elaborated capacity and production plan. Thus, the transfer of the contract to other factory was completely unexpected for KnAAPO.

As a result, on 28th of June of 2001 KnAAPO registered a claim to the Government of Russian Federation in Supreme Arbitration Court to invalidate the resolution to change the main contractor. According to the Russian laws, in order to be a main executor, the company should have a license for certain activity, quality certificates and respecting industrial capacities. Besides, according to the federal Law on military-industrial cooperation, there could not be any intermediary structures between “Rosoboroneksport” and main executor. In fact, AVPC was an intermediary structure in that case. However, the suit was declined.

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<th>Table 3.1 - Macroeconomical, institutional and microeconomical aspects of the defense industry’s functioning in 2000-2006</th>
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<td>General policy of the state</td>
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<tr>
<td>Establishing of a strong state control in defense industry and forced top-down integration; Full state monopoly in arms export; Increase of the defense budget; Creation of the integrated structures uniting all companies of the particular industry (United Aviation Construction Corporation)</td>
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Summing up, from Table 3.1. it is obvious that government is not focused on the improvement of sector’s performance, and rather on the control of enormous export earnings. Besides, all the measures of the state regulation during the last 6 years clearly show the policy on strengthening of the control over the state property. Such policy is evidenced in two directions: 1) the state gets rid of small and large companies that do not represent any economic interest (by selling state shares to private sector), or 2) takes control over more or less profitable structures, then performing top-down consolidation of share packages (like in case of “Sukhoi”). In fact, the transition to state control is not better, and even worse then independent existence. Basically, these large companies are becoming “milking cows” of the state. Six years ago, having the control packages in major defense corporations, the state did not actively control all the process inside of them, only taking the major part of profits. Nowadays, the state and its structures will control everything in these companies. It will not only define the composition of the management boards and perform managerial decision-making process, but even all-internal processes like production, innovation, R&D.

4 CONCLUSIONS

Basically, the evolution of the Russian defense industry can be divided in periods as presented in the Table 4.1. The new period starting from 2006 is indicated by the creation of monopolistic structures joining the majority of companies based on the final products: United Aviation Construction Corporation, United Shipbuilding Corporation, and others.

Table 4.1 - Macroeconomical, institutional and microeconomical aspects of the defense industry’s functioning in 1992-2006
The first period (1992-1999) can be described by complete lack of adequate governmental regulations and control over the sector, number of reforms (conversion, privatization, decrease of the state order and subsidies, and others) and other difficulties met by the industry. Basically, none of these reforms was carried out according to primary plan and did not achieve its initial goals. Conversion, for example, was aimed at reorientation of the military enterprises at production of civil goods. It did not succeed due to, mainly, obsolete technologies, fierce competition from Western goods and lack of financing. Privatization met different attitude from companies’ managers. Some of them were not in favor of privatization and believed that the transition period will not take a lot of time, and after a while the government will continue to support heavily defense companies, as it was in Soviet Union. Others, on the contrary, adopted necessary measures rapidly in hope to carry out independent policy and decision-making. In addition, the privatization process was lacking proper control, leading to illegal privatization of the most important and strategic for country’s security enterprises. These two reforms did not lead to improvements of companies’ performance and laid many companies on the edge of bankruptcy. However, overall confusion, lack of consistent state policy, and decentralization processes have helped some companies to switch
faster to new market rules, and made great contribution to development of important managerial skills and adoption of new management strategies and tactics.

The next period (2000-2006) can be characterized by the purposeful efforts of the governmental structures to re-establish control and strict hierarchy not only within the sector, but in other profitable export industries (oil and gas, metal, natural resources). First step included top-down restructuring and holdings establishment. The main objective was to consolidate necessary financial, production, and technological resources within large structures. Many companies that were subject to be joined to this or that holding structure were against this policy. Among them were those that in course of 1990-s managed to adopt new managerial skills, develop production and were able to independently and successfully carry out export activity and, consequently, receive large export revenues. These companies were the first to join different holdings have lost their independent position and right to perform their individual policy. Basically, they lost their perspective positions on the world markets and became controlled by the managing companies of the holdings, which now determine overall policy and every particular detail in their performance.

Another control measure was the establishing of the state monopoly on the export of armament and weapons. The right to export was transferred to the state intermediary export agency “Rosoboroneksport”. Nowadays no one company can negotiate with foreign customer or participate in international armament exhibitions. All negotiations must be carried out through “Rosoboroneksport”. Even though it is declared that such a system allows strengthening of Russian positions on the world market, elimination of the competition among Russian producers for foreign contracts and carrying out of a unified marketing policy, it brings many difficulties for companies. First of all, “Rosoboroneksport” interrupts relations between foreign client and final manufacturer, thus, slowing down contract process. Secondly, it takes away a big part of export revenue in the form of commission, which sometimes reaches 30% of contract’s value. Moreover, it leads to the creation of the monopolistic structure and to reduction of the transparency of Russian military export, which, in turn, can result in loosing of positions on the world market, especially among developed countries.

The new phase comes with governmental efforts on establishing of even more centralized system and creating large monopolistic structures in various defense industries (United Aviation Construction Corporation is already in the process of creation; the decision to establish United Shipbuilding Corporation was adopted in March of 2007). Creation of the United Aviation Construction Corporation has the following goals: improve the critical situation with producers of civil airplanes, improve the condition of Russian airlines’ obsolete
fleet, eliminate excessive production facilities, eliminate competition among different civilian projects and consolidate financial resources on the perspective aviation projects, develop new civil product that will be demanded on the world market, attract foreign investors, perform technological renovation, and others.

In spite of common confidence in success of the created structure among governmental officials, the real achievement of such large-scale goals is doubtful. First of all, the initiated process assumes that restructuring process will be finished within 2 years. In reality, the assessment of assets of the companies, the development of the unified strategy and managerial solution, and, especially, of a new product, takes much more time. Another difficult process is the consolidation of the assets from the point of view of property rights: some companies remained state-owned, while others are private or with mixed participation. The mechanisms of this process were not developed yet. Another point is the destiny of those companies that will not join UACC, because they will not have access to state order and foreign markets. The claims that UACC will eliminate the competition among the similar project are doubtful due to the fact that nowadays most of competing projects continue to be financed by state. Besides, all the companies developing similar projects have joined UACC and will continue to compete inside of this structure.

Orientation on the civil market rather than military contradicts with hard-won positions on the world market and demand evaluations for the next 5-10 years. Besides, the market for civil airplanes is strictly divided among main producers: Boeing and Airbus in the segment of long-haul airplanes, and Embraer and Bombardier – in the segment of regional jets.

Moreover, UACC will create a monopolistic structure, which is not effective from economical point of view. A monopolistic structure will offer to the main client (Ministry of Defense) the price that it considers reasonable, while Ministry of defense will be forced to accept this price and conditions not having other offers.

As a conclusion, it is necessary to point out that governmental policy towards defense industry have switched from totally liberalization to absolute control in course of 1992-2006. Nowadays the companies cannot carry out independent policy and make important decisions as state or its structures determines every particularity of companies’ functioning. Moreover, the situation of particular companies that were successful before has worsened a lot in terms of production loading and self-investment possibilities. To my mind, the centralization process occurred within the branch during last six years reflects a strong desire of the government to control and carry out redistribution of financial flows. Besides, all these measures have led increase of unnecessary hierarchical levels, over-bureaucratization of the
industry, slowdown of decision-making process, diffusion of authority and delays in contracts’ developments. In future, all this will give results and worsen Russian position on the world market.

Of course, the control is needed, but the following restructuring seems to be much more reasonable. The government should take care first of all of those companies that suffer difficult financial situation in the following manner: those ones that represent strategic interest due to special technologies, should be preserved and reformed in order to improve their situation. Others, that do not represent any strategic interest, should be reoriented for production of different product or closed. Those companies, that managed to win a position on the world market, to convert to modern effective structure, to achieve recognition, must be set aside with a minimal level of control from government and must be given a right for individual export.

REFERENCES

ROSSIJSKAYA FEDERATZIYA. Ukaz Presidenta # 1268 “O sozdaniii Aviatsionnogo Voenno-Promyshlennogo Kompleksa (AVPK) “Sukhoi”.

ROSSIJSKAYA FEDERATZIYA. Ukaz Prezidenta ot 06.01.2001 No. 8 “Ustav Federal’nogo Gosudarstvennogo Unitarnogo Predpriyatiya “Rosoboroneksport”.


CHUBAHA I.; STARIKOV S. Vozduchnye yamy aviaproma. Nezavisimoe Voennoe Obozrenie, 10.02.06.


Godovoi othet otkrytogo aktzionernogo obshestva “Komsomolskoe-na-Amure aviationnoe proizvodstvennoe ob’edinenie im. Y.A.Gagarinaza 2005 god”


LANTRATOV, K. Odobrena kontzeptziya sozdaniya OAK. *Voennno-Tehnicheskoе Sotrudnichestvo*, No. 51, p. 12, 2004


Nezavisimoe Voennoe Obozrenie, 9 February and 5 October 2001


_____. Voenno-torgovyj anshlag. Vremya Novostej, 27.01.2004


