

The Russian defense industry complex in the conditions of economic sanctions

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Abstract

The article is devoted to the analysis of the military-industrial complex (MIC) of Russia in the conditions of economic sanctions. And although its main target was the oil and gas industry, as well as the banking sector, economic sanctions against Russia affected the MIC as well. They had an effect on such large Russian state defense enterprises as air defense "Almaz-Antei", "Sirius", "Stankoinstromkent", "Kalashnikov", "Tula Arms Factory", NGO "Oriental Complexes", as well as "Dobrolet". The prohibition of foreign debt financing has affected such major enterprises of the defense industry as "Uralvagonzavod", "Oboronprom", "United Aircraft Corporation".

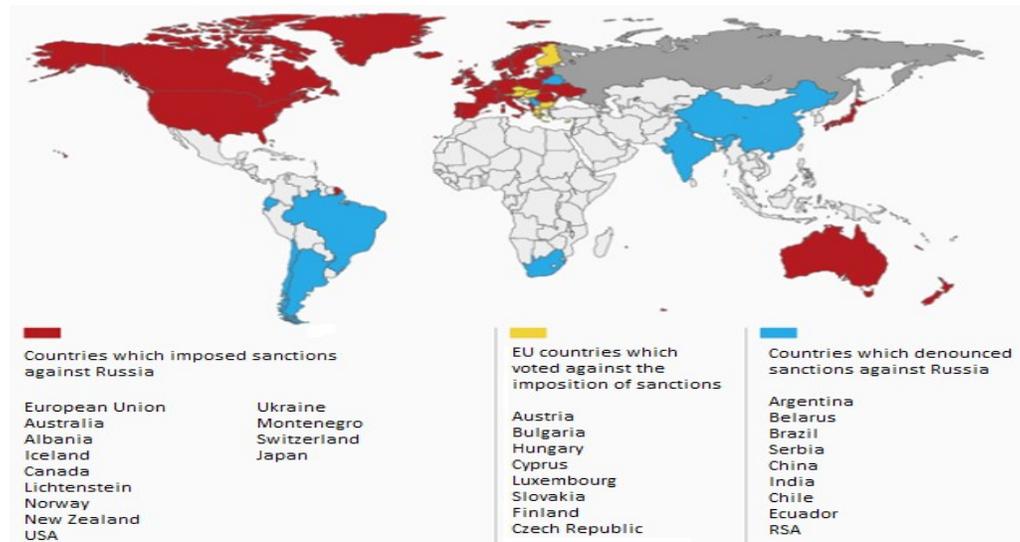
The article shows, in general, the favorable impact of sanctions on the industry. At the end of 2016, Russia ranked second in world arms exports with a share of 23%, with the US the leader - their share was 33%. But the structure of the share capital in the defense industry companies is completely different if we compare these two countries: in the US, private companies dominate the market, in Russia - the largest enterprises are owned by the state. In the course of the analysis, it turned out that Russian defense industry enterprises are unprofitable and exhibit no stability in financial performance, since they are highly dependent on government spending. To improve the current situation in this sector, it is advisable for the state to modernize the military-industrial complex companies in order to enhance the role of market mechanisms that will stimulate R&D, as under modern conditions of competition in any market, innovations represent an exclusive advantage for an industry's prosperity.

1. Economic sanctions against Russia and Russian anti-sanctions: costs and benefits

Due to events in Ukraine, and as a result of Russian annexation of Crimea, on the 17th of March 2014, the United States have imposed sanctions in relation to high-ranking Russian state officials, which led to a chain reaction and many other countries (EU member countries, Japan, Australia and others) have eventually joined in imposing sanctions against Russia.

And even though at the center of imposed sanctions were oil, gas (Nureev R.M., Busygin E.G., 2017) and banking industries (Nureev R.M., Busygin E.G., 2016, P. 65-72), economic sanctions against Russia touched upon the MIC as well. They had an effect on such large Russian state defense enterprises as air defense "Almaz-Antei", "Sirius", "Stankoinstromkent", "Kalashnikov", "Tula Arms Factory", NGO "Oriental Complexes", as well as "Dobrolet". The prohibition of foreign debt financing has affected such major enterprises of the defense industry as "Uralvagonzavod", "Oboronprom", "United Aircraft Corporation".

As mentioned before, Western European countries, along with Japan, Canada, Australia and New Zealand joined in the US sanctions. However, not all EU countries agreed on sanctions policy. Many big countries such as China, India, Brazil, Argentina and RSA and others have not supported the imposition of sanctions altogether (picture 1).



Picture 1. Relation to economic sanctions against Russia by different countries

Source: <http://mediamera.ru/post/20251>

In response to Western sanctions, Russia imposed a ban on imports of food products from the US, EU, Norway and other countries to further the domestic development of meat, milk and fishing industries and further increasing the production of vegetables and fruits (RIA news, in more detail, see (Nureev R.M., Busygin E.G., 2016, P 72-77)). The policy of import substitution, undertaken by Russia due to political tensions in the global arena, has a direct connection to the development of the country's innovation potential, which, in turn, is mostly presented through the military-industrial complex.

Table 1. Leader countries by investment in technology in 2015 (share of global investment)

	USA	China	Germany	Japan	Russia	South Korea	Great Britain	Other
R&D	59%	15%	12%	7%	1%	2%	2%	3%
Agriculture	68%	10%	5%	2%	1%	1%	1%	13%
Automobile industry	22%	6%	29%	32%	0%	8%	0%	3%
Spacecraft industry	62%	3%	6%	1%	13%	1%	2%	12%
Communications	57%	13%	2%	13%	0%	4%	4%	6%
Energy	49%	10%	20%	7%	1%	1%	1%	11%
Environment	37%	1%	26%	8%	1%	2%	6%	18%
Healthcare	43%	2%	18%	7%	0%	2%	9%	19%
Military-industrial complex	78%	6%	1%	0%	11%	1%	1%	3%
Pharmaceutical	56%	4%	16%	5%	1%	1%	7%	11%

Source: Global R&D funding forecast 2016

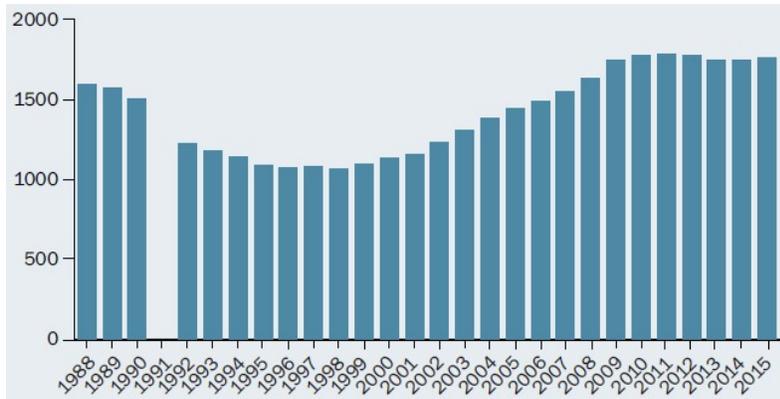
Table 1 shows the leader countries by total investment in technology in 2015. According to the data, Russia invests mostly into the spacecraft industry (13% of global investment) and military-industrial complex (11% of global investment), other industries remain neglected and R&D is financed only by 1% of global spending.

It should be noted that in Russian reality, the space industry, which is denoted separately in table 1, works in conjunction with military-industrial complex. Overall, the structure of the military-industrial complex is comprised of the following industries (National economy, 2010):

Aircraft industry (which includes construction of airplanes, helicopters, engines and avionics);

Missile-space industry (production of ballistic missiles with space launch capabilities, spacecraft, rocket engine construction and etc.);

Shipbuilding industry;
 Electronic industry;
 Radio industry;
 Atomic industry.



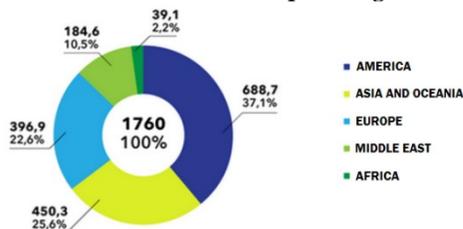
Picture 2. Global military spending from 1988 to 2015 (in fixed prices of 2014, (bln USD)*

*The lack of data for the USSR in 1991 did not allow to calculate the total

Source: Trends in global military spending 2015 (2016) // SIPRI

2. Global military-industrial complex: development trends

Countries have been bolstering their military power since the end of 1990s, after a former decline, which can be attributed to the collapse of the USSR. By 2015 the global military spending totaled 1760 bln. USD, while in 1998 this figure amounted to approximately 1200 bln. USD (figure 2). This growth can be largely explained by the intense growth of Chinese economy, which led to greater military spending. It can also be assumed that after the financial crisis of 2008, countries have re-directed their financial streams toward the recovery of their national economies, which led to a halt in military spending. From 2010 the trend stabilized and the spending remains at a similar level (picture 2).

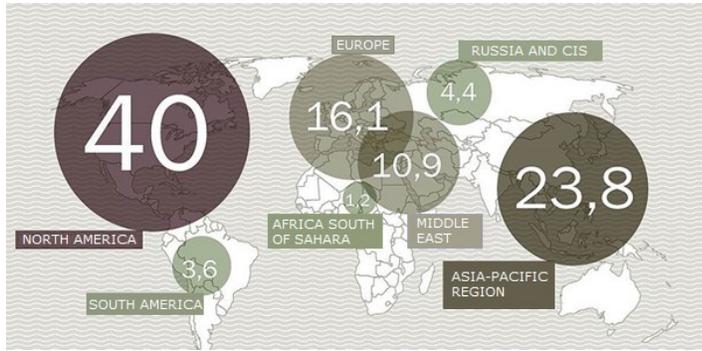


Picture 3. Military spending by region for 2015 (bln. USD)

Source: <https://www.kommersant.ru/doc/3187187>

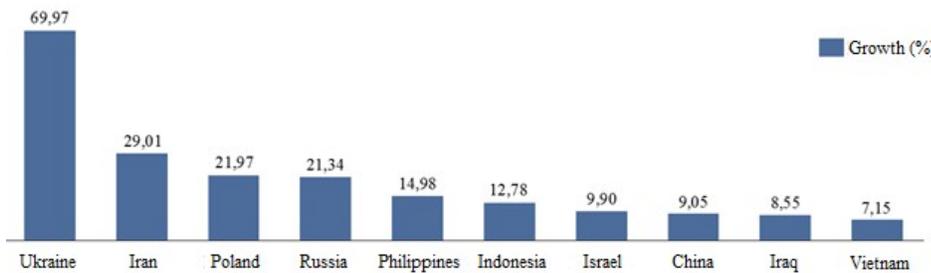
Despite the rapid growth of Asian countries at the end of XX century and the start of XXI century, the American continent still retains its leadership in military expenditures. Picture 3 shows the military spending by region for year 2015. The total sum of spending in the entire world amounted to 1.7 trln. USD., with the largest share comprised by the Americas - 37.1% of global spending, followed by Asia and Oceania - 25.6% and Europe - 22.6%.

In 2016 the military spending of the American continent amounted to 43.6% of the global spending, which is a 6.5% increase compared to 2015 (picture 4). North American share alone amounts to 40% of global military spending. In spite of the American countries' domination in military spending, it must be noted that the growth of geopolitical tensions can lead to an increase in military needs for the Asian region and in the following 5 to 10 years it can take the first place in the world (including the economic growth in India, which allows to spend more on military needs).



Picture 4. Global military spending by region for 2016 (in %)

Source: World Military Balance 2017, International Institute for Security Studies (IISS)

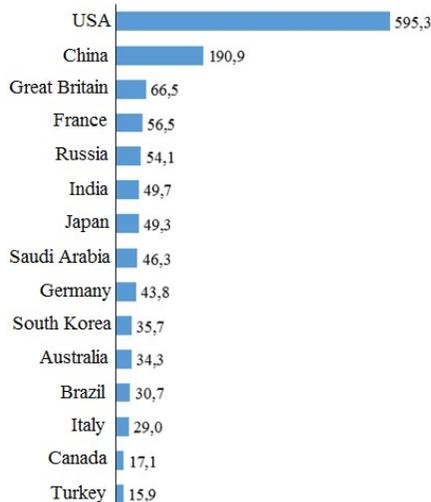


Picture 5. Top 10 countries with the fastest growing military budgets in 2015 (%)

Source: HIS Jane’s Annual Defense Budgets Report 2015

As a result of a political crisis in Ukraine, its military spending increased almost by 70% in 2015 compared to 2014 (picture 5). Out of 10 countries which entered top 10 in increase of military spending, 3 belong to the European region (Ukraine, Poland, Russia), 3 – to the Middle East (Iran, Israel, Iraq) and 4 – to the Asia-Pacific region (Philippines, Indonesia, China, Vietnam). According to IMF’s classification of countries, only Israel can be considered a developed country, while others are countries with developing economies.

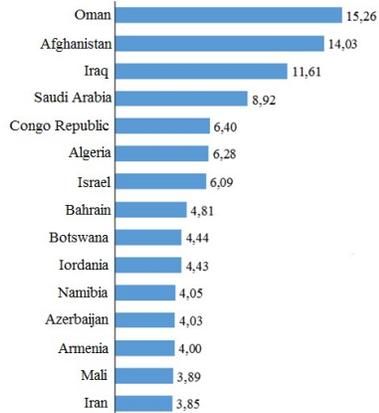
Despite the fact that the most rapidly growing military budgets were in developing countries, developed countries remain the leaders in military budget volume in absolute terms. USA still possess the largest military budget (595,3 bln. USD in 2015), Russia occupies 5th place with 54,1 bln. USD (picture 6). Second place belongs to China, with its military budget amounting to 190,9 bln. USD. This means that the closest competitor to the United States falls behind by almost three times.



Picture 6. Countries with the biggest military budgets in 2015 (bln. USD)

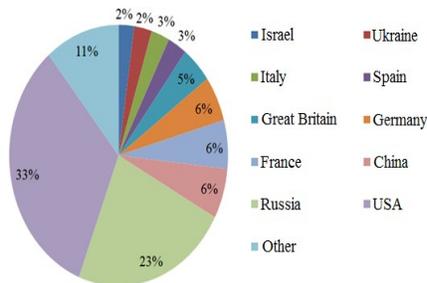
Source: HIS Jane’s Annual Defense Budgets Report 2015

The leader country in military spending in percentage of GDP is Oman, with its military expenditures amounting to 15.26% of GDP in 2016 (picture 7). Out of developed countries Israel is present in this ranking, with its military spending amounting to 6% of its GDP, while all other countries are considered developing.



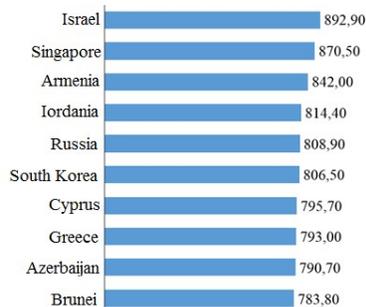
Picture 7. Countries with the largest military expenditures as percentage of their GDP
Source: World Military Balance 2017

Picture 8 shows the share of arms exporter countries in 2016: the United States take first place as a leader in exports, with its share equal to 33%; Russia takes second place with a share of 23%. The total share of these two countries in the world exports of arms amounts to 56%. According to the index of militarization, Russian ranks 5th in the world (picture 9). This index is calculated on a scale from 0 to 1000 on the basis of military expenditure as a share of GDP and spending on healthcare, the number of armed forces, reserves and militarized formations in related to the total population and number of doctors in the country, and also based on the quantity of heavy weaponry in proportion to the population. The first place is occupied by Israel, with its militarization score of 892,9.

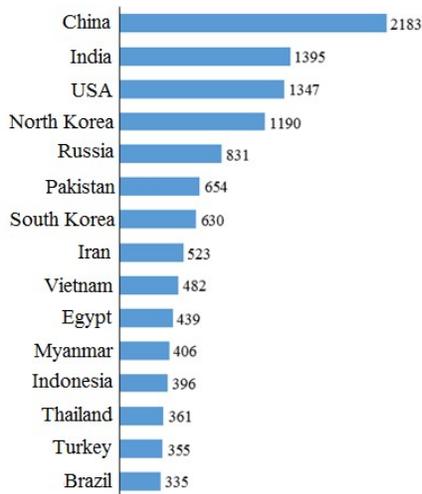


Picture 8. Share of countries in the world arms exports of 2016 (%)
Source: <https://www.sipri.org/sites/default/files/Trends-in-international-arms-transfers-2016.pdf>

The leadership in number of armed forces are countries with the biggest populations – China (2183 thousand people), India (1395 thousand people) (picture 10). Russia ranks five in the world rating with the number of armed forces amounting to 831 thousand people.



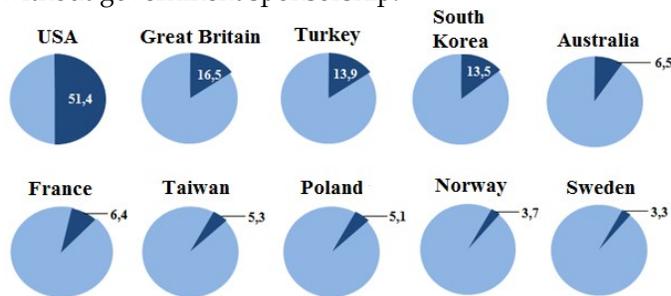
Picture 9. The most militarized countries of the world in 2016
Source: The global militarization index 2016, Bonn International Center for Conversation



Picture 10. Countries with the biggest number of armed forces in 2016 (thousand people)

Source: World Military Balance 2017

According to the data of Federal Statistics Service, in Russia, the share of high-tech products in GDP for 2016 reached 22.3 (which is 0.8% more than in 2015), with the main drive for growth attributed to the military-industrial complex (Technologies are leaving..., 2017; Russian Federal statistics service). It must be pointed out that budget expenditures for military purposes increased from 2 trln. rubles in 2013 to 3.8 trln. rubles in 2016. (Ministry of finance; RBC); The sum of government military procurement in 2015 amounted to 1.8 trln. rubles which is a 20% increase compared to 2013 (Government procurement..., 2016). As a result, there is a high probability that the growth in the share of high tech industries in GDP, dependent on the increase of production in the military-industrial complex, will not continue, especially without government sponsorship.



Picture 11. Countries with the biggest share of military R&D in the total volume of state R&D financing (%)

Source: OECD, data for 2015-2017

Top positions for the largest share of military R&D in the total volume of state R&D financing are taken by developed countries: USA, Great Britain, South Korea, Australia, France, Taiwan, Norway, Sweden (picture 11). The United States are ahead of their closest competitor by more than 3 times, with their military R&D percentage equal to 51.4% (picture 11).

The world market for arms trade exhibits a stable growth, beginning from 2010 (picture 12). As a result of tense geopolitical environment created in 2014, the volume of the arms production market increased by 10% from 2014 to 2016, compared to the growth of 13% for 2011 to 2014. According to the IHS' forecast, the growth trend will continue for 2017 and 2018 as well.

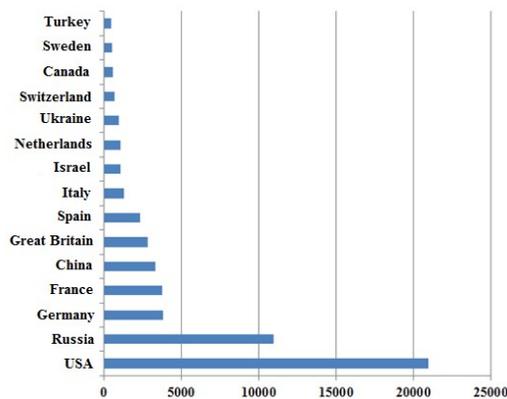


Picture 12. Global market of arms trade from 2010 to 2018 (trade volume, bln. USD., 2016-2018 forecast years)

Source: IHS Global Defense Trade Report 2016

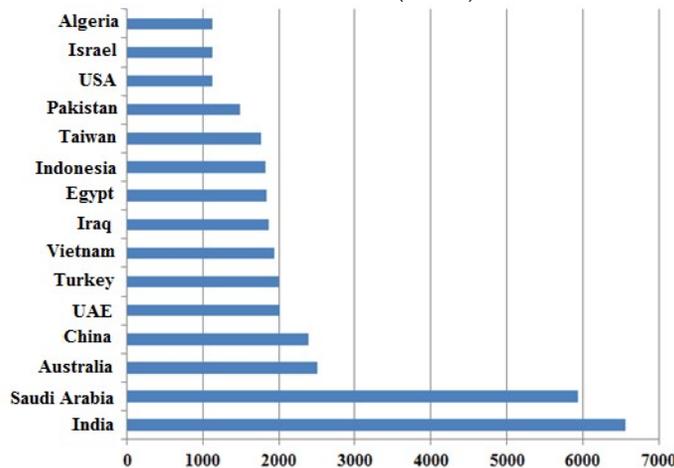
Russia is in the top three countries for exports of arms and military vehicles, which signifies the importance of Russian military products on the global market. In 2015 Russia took second place in the exports of arms and military vehicles, taking a significant lead against Germany, while the first place was kept by USA (picture 13). The largest exporters on the market are developed countries, while the largest importers of arms and military vehicles are developing countries – India, Saudi Arabia, China, Turkey and etc. (picture 14).

In 2016 Russia retained its second place in global exports of arms and military vehicles, but the volume of its exports fell to 7.68 bln. USD from almost 11 bln. USD in 2015 (picture 15). The United States, on the contrary, saw an increase in the volume of their exports from 21 bln. USD in 2015 to 24.4 bln. USD by the end of 2016 and this sum can significantly increase in the coming years due to contracts with Saudi Arabia, which were signed in May 2017 with the total sum of 110 bln. USD (Saudi Arabia..., 2017).



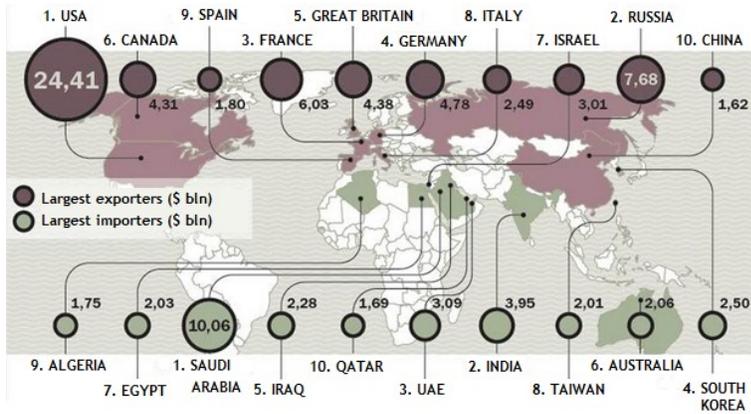
Picture 13. Largest exporters of arms and military vehicles in 2015 (mln. USD)

Source: Arms Transfers Database (SIPRI). Data for 2014-2015 in prices of 1990



Picture 14. Largest importers of arms and military vehicles in 2015 (mln. USD)

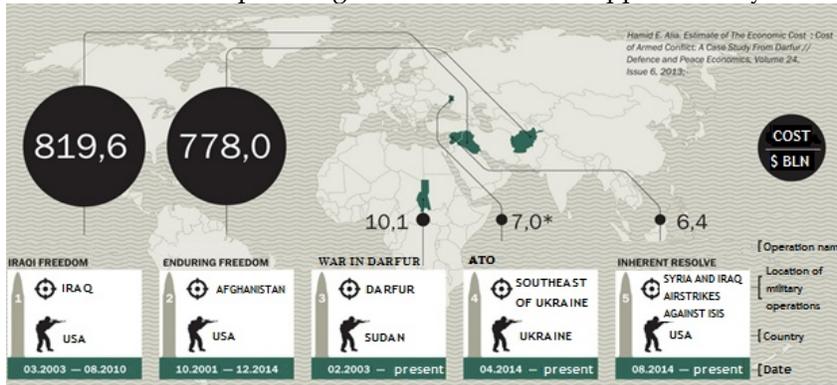
Source: Arms Transfers Database (SIPRI). Data for 2014-2015 in prices of 199



Picture 15. Global arms and military vehicles market for 2016

Source: IHS Global Defense Trade Report 2016

USAs has the largest military budget in the world and its volume is explained by the military campaigns that the country embarked upon in XXI century. Out of five most expensive military campaigns of XXI century, three were initiated by the United States (picture 16). The total cost for military confrontation in Iraq and Afghanistan amounts to approximately 1600 bln. USD.



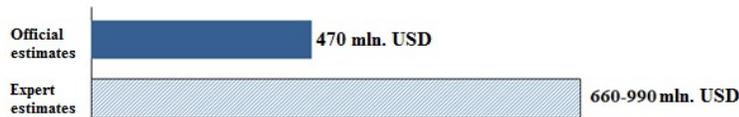
Picture 16. Most expensive military campaigns of XXI century

Source: National Properties Project; Harnid E. Alia Estimate of the economic cost of armed conflict: a case study from Darfur // Defence and Peace Economics, V.24, Issue 6; Media estimates

Regarding Russian participation in military operations first of all one must note the Syrian conflict. By the end of the main operation of Russian air forces in April 2015, there were (Schkurenko O., Mishanina T., 2016):

- 9500 combat flights;
- 29000 targets hit;
- 180 combat flights of far bombardment;
- 200 destroyed oil extraction plants
- 500 populated areas liberated by government forces.

According to official estimates, Russian expenses for military operations in Syria amounted to 33 bln. rubles (470 mln. USD), however the experts estimate this figure to be at least 1.5-2 times bigger (picture 17). This means that one day of warfare in Syria amounts to approximately 2.5-5 mln. USD from September 2015 to March 2016. In spite of the costs, Russian military campaign drew interest from other countries to its arms equipment and vehicles. In particular, contracts were made with China, Algeria, and currently there is a discussion of a for the sale of Su-35 to Indonesia.

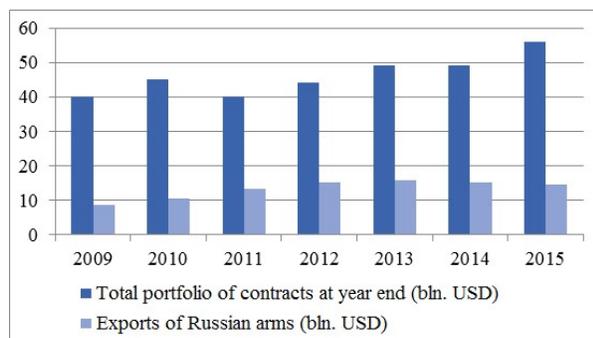


Picture 17. Russian military operation in Syria (costs from September 2015 to March 2016)

Source: Schkurenko O., Mishanina T. The most expensive armies of the world-4. Money, 15 May 2016, <https://www.kommersant.ru/doc/2984503>

3. Overview of Russian military-industrial complex

Total portfolio of contracts and exports of Russian arms and military vehicles from 2009 to 2015 can be seen on picture 18. It can be noted that the total portfolio of contracts is significantly higher than the level of exports from 2009 to 2015



Picture 18. Total portfolio of contracts and exports of Russian arms and military vehicles from 2009 to 2015 (in bln. USD)

Source: http://www.cast.ru/files/book/2015_rus.pdf

The largest enterprises of the Russian military-industrial complex are JSC Concern VKO Almaz-Antey, JSC Sukhoi Company, JSC Kamaz, JSC Irkut Corporation and others (table 2). The companies show a mixed trend of their financial results in 2015-2016. The revenue of the majority of enterprises increased in 2016 compared to 2015, while net profits have substantially increased for JSC Rosvertol (more than two times from 7.6 bln. rubles in 2015 to 18.6 bln. rubles in 2016).

Table 2. Largest MIC enterprises in Russia

№	Company	Revenue (bln. rub.)		Net profit/loss (bln. rub.)	
		2015	2016	2015	2016
1	JSC Concern VKO Almaz-Antey	136,5	n/a	28,1	n/a
2	JSC Sukhoi Company	100,7	108	2,7	2,4
3	JSC Kamaz	86,7	119,8	-3,3	1,2
4	JSC Irkut Corporation	82,8	99,9	1,5	2,2
5	JSC Ufa Engine Industrial Association	67,5	n/a	3,6	n/a
6	JSC PO Sevmash	62,5	74,3	7,2	5,7
7	JSC Rosvertol	56,8	84,3	7,6	18,6
8	JSC Uralvagonzavod	54,9	93	-10,1	1,5
9	JSC United Aircraft Corporation	49,3	50,8	-9,4	-3,2
10	JSC Kazan Helicopters	49,1	25,3	12,4	0,1
11	JSC Admiralty Shipyard	45,3	44,9	5,3	5,2
12	JSC Ship Repairing Center Zvyozdochka	42,4	40,4	0,1	1
13	JSC Kalinin Machine-Building Plant	39,9	46,8	6,9	9,9
14	JSC Chief Directorate for Troop Accommodations	39,9	n/a	0,1	n/a
15	JSC Progress Rocket Space Centre	38,5	n/a	0,6	n/a

Source: The Most Expensive Armies in the World // <http://www.kommersant.ru/doc/3288771>

3.1. Financial performance of the military-industrial complex from 2013 to 2016

From the analysis of the largest enterprises of the military-industrial complex in Russia, the following companies must be noted: JSC Concern VKO Almaz-Antey (11th place in SIPRI rating “100 leading manufacturers of arms” for 2014), JSC United Aircraft Corporation (14th place), JSC Rosvertol (23rd place) (Eleven leading..., 2014).

Financial indicators of the companies available in free access are presented in table 3. They are: JSC Rosvertol, JSC United Aircraft Corporation and JSC UIMC. The financial performance of these enterprises is mixed. Despite the high figures of return on sales, which were obtained by JSC Rosvertol in 2014 and 2015 (12% and 19% respectively), in 2016 the indicator reached only 7%. Sharp volatility of this financial indicator proves the instability. JSC UIMC had low return on sales in both 2014 and 2015 while JSC United Aircraft Corporation was unprofitable for the entirety of the selected time period.

Table 3. Revenues and profits of biggest Russian military-industrial enterprises from 2013 to 2016

Years JSC UAC	2013	2014	2015	2016
Revenue (bln. rub)	220	294	346	416
Net profit/loss (bln. rub)	(13)	(13)	(109)	(4)
Return on sales (%)	-6.1%	-4.6%	-31.8%	-1.1%
Years JSC Rosvertol	2013	2014	2015	2016
Revenue (bln. rub)	138	169	219	214
Net profit/loss (bln. rub)	9	20	42	16
Return on sales (%)	6%	12%	19%	7%
Years JSC UIMC	2013*	2014	2015	2016*
Revenue (bln. rub)	-	97	113	-
Net profit/loss (bln. rub)	-	2	3	-
Return on sales (%)	-	2%	3%	-

* Financial data for 2013 and 2016 was not available in open access

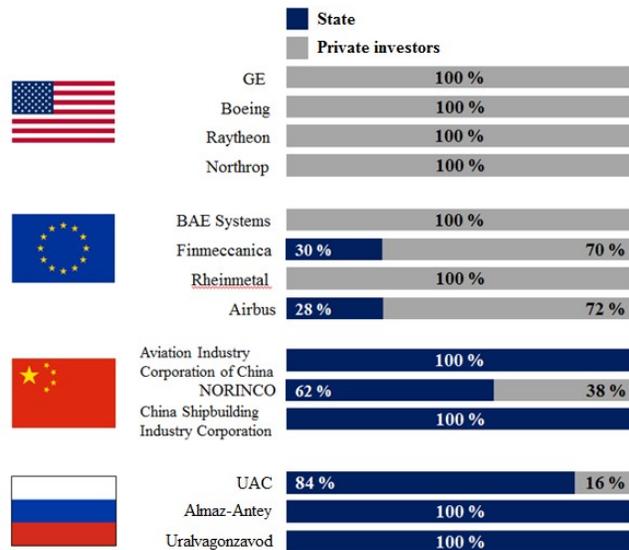
Sources:

[http://www.russianhelicopters.aero/ru/investors/financial_reports/msfo/?arrFilter_ff\[DATE_ACTIVE_FROM\]=2016&set_filter=Y&SECTION_CODE=msfo;](http://www.russianhelicopters.aero/ru/investors/financial_reports/msfo/?arrFilter_ff[DATE_ACTIVE_FROM]=2016&set_filter=Y&SECTION_CODE=msfo;)

[http://www.uacrussia.ru/ru/investors/financial-information/;](http://www.uacrussia.ru/ru/investors/financial-information/)

<https://www.e-disclosure.ru/portal/files.aspx?id=34345&type=2>

The structure of share capital for military-industrial companies is shown on picture 19. In the United States there is a clear dominance of private companies, while in Russia the largest enterprises belong to the state.



Picture 19. The structure of share capital for military-industrial companies (in %)

Source: <https://www.vedomosti.ru/opinion/articles/2016/02/09/627923-oboronnaya-promishlennost#/galleries/140737492618784/normal/1>

It must be pointed out that state companies, receiving government subsidies are less efficient than private ones. Among the main problems is the ineffective allocation of resources (Sherstobitova O.V., 2013; Kildeeva I.N., 2015), which is the main reason for a lack of motivation towards choosing the optimal trajectory of economic activity by the state enterprises. Low efficiency of state companies is admitted on the level of Russian Federation ministries, including the Ministry of Finance (Minfin..., 2017).

3.2. Reformation and modernization of the national military-industrial complex

Russian military-industrial complex requires modernization, which will allow companies to optimize their economic activity and lower their costs, which will lead to greater and more stable financial results. The total revenue of 15 largest enterprises of Russian MIC amounted to 952 bln. rubles, while their total profits are 53.3 bln. rubles, while 3 companies out of 15 ended the year with a net loss, which evidences the companies' low efficiency of their available resources.

Apart from purchasing new equipment, which lowers costs, stimulating the research and utilization of innovatory technologies, the MIC requires a state policy, aimed at the development of market mechanisms in this sphere. As a part of this reform, the industry must re-orient itself towards the external markets, while the research of modern trends in military sphere and formation of these tendencies nationally will lead to an increase in competitiveness by Russian enterprises on the international markets.

Among the possible ways of optimizing the production process for MIC enterprises, the following can be highlighted:

Formation of production clusters and technological parks, combining the companies of MIC, metallurgic factories, electric stations and scientific research centers. The realization of production processes in the framework of such unions will allow to efficiently resolve current objectives and lower the transaction costs, related to territorial barriers and search for partners.

Active attraction of domestic consulting agencies and scientific research centers which allow to examine objectives from different perspectives will make administrative decisions more efficient and calculated;

Development of international partnership and creation of joint enterprises with foreign companies from China, India, Brazil, will contribute to an exchange of current technology, sharing of development costs and operating new technologies. The main problem which needs to be solved when realizing international cooperation is the question of intellectual property as a result of joint development efforts. Success of external economic activity in MIC requires a correct legal basis.

4. Military-industrial complex in the conditions of sanctions: results and perspectives

4.1. Military and space industries: first steps to import substitution

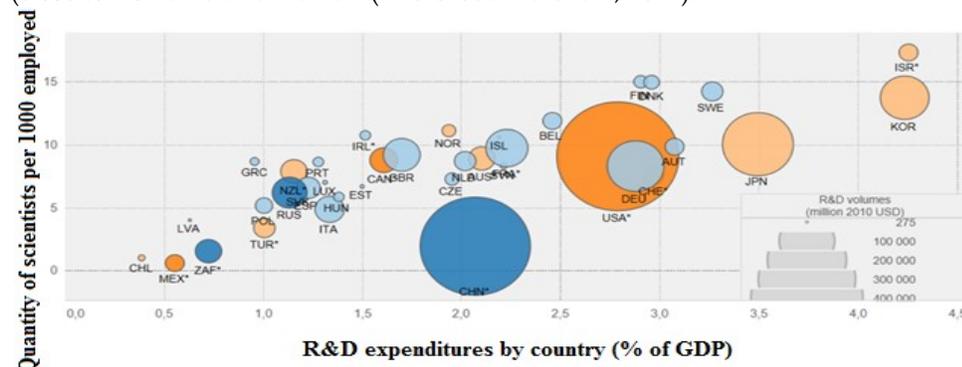
According to the estimate by Oleg Ostapenko, head of Roskosmos, the influence of sanctions on the industry is «overall favorable» (Kommersant, 11.11.2014). New technological developments are being implemented at a faster rate.

The process of import substitution in the space industry has accelerated and made many corrections to its production processes. Due to sanctions there is a boost in production of launch vehicles, space tugs, spacecraft (Kommersant, 11.11.2014). The lacking microelectronic components and machines can be purchased in China, South Korea, India, Singapore and other Asian countries, according to Igor Komarov, head of URSC (United Rocket and Space Corporation) (TASS, September 11, 2014). In any case, according to Oleg Ostapenko, «the imposed sanctions are not critical for the industry». It is important to note that sanctions had no effect on partnership in the International space station, and as Ostapenko notes: «USA, in spite of sanctions, do not reject the use of Russian spaceships “Souz” for delivering their astronauts to ISS» (IRU, November 12, 2014).

However the imposition of sanctions and the strengthening of foreign currencies, led to a 30% increase in costs for the Russian space program, per secretary of Roskosmos Denis Lyskov (PIA Новости, 21 мая 2015). Apart from that, in production of some arms, western microchips and transistors amount to 90%, hence why the Russian import substitution still has many obstacles to overcome (Gazeta.ru, October 31 2014).

4.2. Innovation potential for the industry

The problem of R&D touches upon the entire innovation industry in Russia. Picture 20 displays the data of expenditure on R&D in various countries as a percentage of GDP, along with the number of scientists per 1000 employed persons. The size of the circle signifies the volume of funds which go to R&D (in mln. USD of 2010). Russia is in the same cluster as Italy, Turkey and New Zealand, but substantially lags behind USA, Japan, China, South Korea both in absolute terms as well as in percentage of GDP (slightly above 1% of GDP). Russia ranks high in scientists per 1000 of employed persons – 6.2 scientists per 1000 employed, while in the USA the number is 9.1, while at the same time the European and American universities rank among the top positions in the 500 leading universities of the world (Global R&D..., 2016). According to the global talent competitiveness index (GTCI)¹ in 2017 Russia took 56th place (close to Romania and Kuwait (The Global Talent..., 2017).



Picture 20. Human and financial resources, spent on R&D in various countries

*Data up to 2015

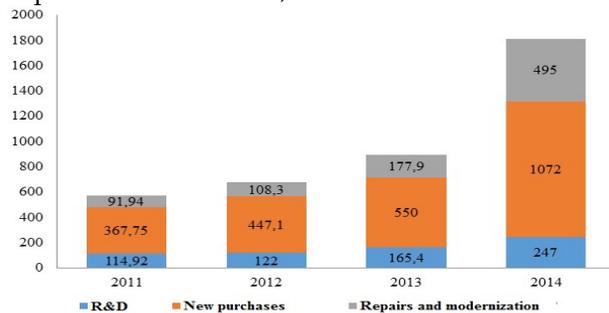
Source: OECD, Main science and technology indicators, January 2017

According to the number of international patent applications, submitted under the Patent Cooperation Treaty by the World Intellectual Property Organization, Russia significantly falls behind the

¹ Global Talent Competitiveness Index is an index, developed by the French business school INSEAD, with the help of which one may evaluate the intellectual and technological level of countries. The calculation of the index includes the analysis of institutional environment, market and business conditions, which allow to unleash the human potential (the ability to attract, develop and keep the talented people), as well as the quality of talented people (according to their professional, technical and global knowledge).

leading countries. In 2015 Russia filed 792 applications (948 in 2014), while the United States filed 57385 applications in the same year (61477 in 2014), China filed 29846 (25548 in 2014), South Korea - 13117 (14626 in 2014) (International applications..., 2016).

The values of various indicators, mentioned in this paper are a direct result of the innovation development policy in Russia. The government has to fund a huge cluster of enterprises, which includes MIC companies, which leaves little financing for R&D. Picture 21 shows state military contacts in the interests of National Armed Forces. In 2011 the repairs and modernization of arms and military vehicles required 92 bln. rubles, which amounted to 80% of R&D for the same year, while in 2014 the repairs required 495 bln. rubles, which is 200% more than R&D spending for the same year.



Picture 21. State military contacts in the interests of National Armed Forces (bln. rub.)

Source: http://www.cast.ru/files/book/2015_rus.pdf

Russian MIC enterprises are unprofitable or do not have large profit margins, they exhibit no stability in their financial performance, because they are highly dependent upon state contracts. To improve the current situation in the industry the state needs to perform a comprehensive modernization of MIC to strengthen the market stimuli for the industry's development. This will not only boost the budget of the country, but also stimulate R&D, since in the framework of modern competition on any market, innovations present an exceptional advantage for enterprise development.

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