

включения в глобальные цепи поставок невозможно добиться серьезного успеха. Наличие внутреннего рынка не спасет, ибо удержать внутренний рынок, не выходя за его пределы, становится все более проблематичным» [4, С. 29-34].

Таким образом, тенденция роста средней дальности перевозок, общего перемещения товаров имеет не просто долговременный, а фундаментальный характер в силу своей связи с межрегиональным разделением труда, специализацией и кооперированием производства, парадигмой экономической глобализации в целом.

Рост дальности перевозок надо воспринимать без отрицательной коннотации. Хотя он и ведет к росту транспортной составляющей в цене товаров. Долгосрочной тенденцией в эпоху современного экономического роста является повышение доли коммуникационных затрат (частью которой является транспортная составляющая), и эти затраты, частично замещая в общей структуре затрат другие элементы, стимулируют экономический рост и способствуют повышению общественного благосостояния. Покажем на условном примере, как рост дальности перемещения товаров и транспортной составляющей в их цене может способствовать повышению эффективности экономики.

Итак, на основе эмпирического и теоретического анализа установлено, что рост дальности перевозок, общего перемещения товаров носит не просто долгосрочный, а фундаментальный характер, что связано с закономерностями социально-экономического развития и способствует экономическому прогрессу.

Литература:

1. Загорский К.Я. Экономика транспорта. М.-Л.: Госиздат, 1930. 368с.
2. Мачерет Д.А. Влияние транспорта на социально-экономическое развитие// Экономика железных дорог. 2003. №10.
3. Мокир Дж. Рычаг богатства. Технологическая креативность и экономический прогресс/ Пер. с англ. М.: Издательство Института Гайдара, 2014. 504с.
4. Радаев В.В. Можно ли спасти российскую легкую промышленность? //Вопросы экономики. 2014. №4. С. 17-36.
5. Экономика железнодорожного транспорта: Учеб. для вузов ж.-д. трансп./ Терешина Н.П., Галабурда В.Г. и др. –М.: УМК МПС России, 2001. -600с.
6. Экономика железнодорожного транспорта/ Под ред. Е.Д. Ханукова. М.: Транспорт, 1969. 424с.

USE OF POLYMERIC COMPOSITE MATERIALS FOR THE IMPLEMENTATION OF IMPORT SUBSTITUTION STRATEGIES IN THE MILITARY & INDUSTRIAL COMPLEX OF RUSSIA

Larin Sergey Nicolaevich,

*Candidat technical sciences, senior researcher
Central Economics and Mathematics Institute RAS,
Moscow, Russia*

DOI: [10.31618/NAS.2413-5291.2019.2.46.57](https://doi.org/10.31618/NAS.2413-5291.2019.2.46.57)

ИСПОЛЬЗОВАНИЕ ПОЛИМЕРНО-КОМПОЗИЦИОННЫХ МАТЕРИАЛОВ ДЛЯ РЕАЛИЗАЦИИ СТРАТЕГИЙ ИМПОРТОЗАМЕЩЕНИЯ В ОБОРОННО-ПРОМЫШЛЕННОМ КОМПЛЕКСЕ РОССИИ

Ларин Сергей Николаевич,

*кандидат технических наук, ведущий научный сотрудник
Центральный экономико-математический институт РАН,
г. Москва, Россия*

Abstract

The main purpose of this study is to reveal modern competitive advantages of different branches of the Russian military & industrial complex. The article substantiates that application of polymeric composite materials stipulates the intensification of the manufacturing of high technology and science consuming production. Polymeric composite materials are already been used almost in all branches of the Russian military & industrial complex. The intensive development of its production and following use of polymeric composite materials for the creation of the modern military technique and systems of armaments, already become one of basic competitive advantages for the implementation of branch import substitution strategies.

Аннотация

Основная цель данного исследования заключается в выявлении современных конкурентных преимуществ различных отраслей российского ОПК. В статье обосновано, что применение полимерно-композиционных материалов способствует интенсификации производства высокотехнологичной и наукоемкой продукции. Полимерно-композиционные материалы уже сейчас используются практически во всех отраслях российского ОПК. Интенсивное развитие производства и последующее использование полимерно-композиционных материалов для создания современной военной техники и систем вооружений становятся одним из основных конкурентных преимуществ при реализации отраслевых стратегий импортозамещения.

Key words: branch import substitution strategies, sanction restrictions, negative influences, competitive advantages, composite materials.

Ключевые слова: отраслевые стратегии импортозамещения, санкционные ограничения, негативное влияния, конкурентные преимущества, композиционные материалы.

Introduction

In order to reduce the negative influence of sanction restrictions Russia should develop at a fast pace the scientific research and developmental works (R&D) for the development of new manufacturing sites for the production of polymeric composite materials (PCM) for the future use for the development of high technology branches of its economics. As we know, the military & industrial complex (MIC) always has been considered as one of leading drivers of the modernization and development of Russian economics and its industrial sites, including ones involving PCM. Due to principally new features such materials are being used in most areas of the Russian MIC, starting from the provision of the personal security of military men by means of manufacturing of protective accoutrements (armored jackets) and ending by such large scale branches as rocket building, aircraft industry, tank building, naval sea systems and many others. That's why to be sure the expansion of scales and areas of PCM application is one of material competitive advantages of the Russian MIC, which can be successfully implemented in branch strategies of the import substitution.

Target of research

Provided that the Russian MIC has always been considered as one of leading drivers for the modernization and development of economics of our country, it seems that the successful implementation of new competitive advantages of PCM application in import substitution strategies of different MIC branches would allow to considerably reduce the negative influence of sanction restrictions on the economic development of Russia.

Materials and methods

The implementation of branch import substitution strategies at the modern stage of the economic development of Russia contributes to the intensive transfer to the manufacturing of the high technology and science consuming production. It is based on the active implementation of innovative technologies, increasing quality of the released production, modernization of all branches of economics. There is good reason that Minpromtorg of Russia has approved 20 branch plans of the import substitution, covering 2200 technologic trends of the development of national economics and determining measures for the stimulation of branches and leading enterprises, taking part in the implementation of such programs [1].

With that nowadays there are all conditions for the development of the production of composite materials and the situation in this area is gradually improving. To a great extent these terms are provided by the scientific backlog, preserved by MIC, the need for the implementation of branch strategies of the import substitution and for the increase of the efficiency of the interaction between PCM manufacturing enterprises and large consumer enterprises. Further we will highlight peculiarities of PCM application in different branches of the Russian MIC.

Results and discussions

Nowadays several enterprises of Rostech corporation carry out the serial manufacturing of PCM articles for Angara and Proton launch vehicles. At the present time up to 40% of details for such items has been manufactured on PCM basis, what contributed to the decrease of the weight by launch vehicles itself by 12%. Almost all elements of sound absorbing panels of aviation engines of such planes as PAC LA (promising aviation complex long-range aviation), T-50 - PAC FA (perspective aviation complex of front-line aviation) and Il-112 have been manufactured at national enterprises with use of modern PCM. That allowed to reduce the weight of planes without plane equipment by 20-30%, to reduce terms of its manufacturing and to considerably reduce the total production cost of such planes as of the ready military & technical production with frames of the state defense order and of the implementation of branch import substitution programs [2].

Due to the successful application of PCM in the aircraft building industry Russia is nowadays among leading world countries, producing modern military planes. So, for example, the body of the fifth generation multifunctional hunter T-50 (PAC FA) is made only of modern radar-absorbent PCM, and the share of PCM is almost 25% from the total weight of the plane without taking the load of weapons into consideration. Besides that the application of PCM allowed to considerably reduce the total number of details, used for the plane assembly. Equivalent radar-absorbent PCM are applied for the manufacturing of bodies of such hunters as Mig-29K/KUB and Mig -35. MIG corporation has deployed the special production of high-strength details, made of carbon fiber, using only Russian materials, including the carbon fibre tow [3].

A whole range of enterprises is manufacturing different kinds of PCM for needs of Russian MIC branches. PCM are composed of polymeric fibers with different features and functional purpose, having fibrillar structures, providing for the most optimal composition of the period of interaction with the destructing agent and the rate of absorption of its destructing energy. The composition of these factors, in its turn, allows to obtain enough high indices of the antistrike and fragmentation protection of military men, equipped with modern armored jackets. With that the circumstance of no small importance is its relatively low weight in comparison with earlier used samples.

Today we have got and are successfully applying different kinds of PCM-made armored protection. There can be referred hybrid interlayer polymeric & metallic and polymeric & ceramic materials, usually forming the combined armored protection, as well as modern nano-polymeric and electroactive polymeric materials. Having high shockproof and low weight features, PCM are widely applied in constructions of the external casing and erections of military ships. So, the erection of such Russian corvettes as Steregoushtchy is fully made of light weight PCM.

After 80-s of the previous century the use of PCM-made armored protection for different purposes became the accepted trend in the development of the world tank building. The PCM armored protection did not only allow to replace the traditional strong steel armor, but also has considerably enhanced the tank and its crew protection from hollow charge, kinetic and other charges. For the first time the serial production of tanks with PCM armored protection was organized in USSR and Soviet T-64A became the first such tank.

The production of military helicopters provides for the protection of the cockpit in the 360 degrees zone of fire with the ceramic & plastic armor. Such effect has been achieved due to the common use of such kind of the armored protection in the cockpit panel itself and in the armoring of the seat back of the crew. Nowadays the manufacturing of modern helicopters of PCM comprises both several elements of bodies, as well as the whole body structure. As separate elements can be highlighted the production of whole composite carbon fiber bladders for Mi-38, Mi-35M, Mi-28NM helicopters. Such bladders made military helicopters more reliable due to the heavy duty of bladders and the increase of its motor resource, what, in its turn, contributed to the increase of its cruise and maximal speed by 10-15% [3].

The fifth generation of Russian submarines will have enough PCM elements. To such elements can be referred the multilayer composite body, steering wheels (forward and astern), stabilizers, crew cabin envelopments, propeller screw bladders, shafts of propulsion engines etc. Anyway, the launch of these items is scheduled to the year 2020, when the production of all fourth generation submarines will be over.

Today for the Russian Navy it is common to have more and more battle ships, which bodies are fully made of PCM. The first unique sweeper Alexander Obukhov with total tonnage of 890 tons was adopted to the Navy in 2016. Its body length is 61 meter and its width is 10 meters. The main peculiarity of this vessel body is that it is fully made of PCM as a monolithic fiberglass. The application of this material allowed to enhance the durability of this vessel's body in comparison with bodies of other vessels, made of usual materials. Besides that, the enhanced durability of bodies of battle ships, use of PCM in the ship building industry provides for the considerable decrease of its total weight. This does not only increase the speed of transfer by 10-20% without any modernization of engines of power packs, as well as the payload mass as additional units of the military technique and sets for armaments' systems [3].

Among other developments of the ship-building industry within frames of the implementation of import substitution programs should be highlighted the finishing of the building of series of ships, project 12700 Alexandrite, as well as export supplies of series of battleships and of ships, providing for its functioning, which bodies are made of PCM, for armed forces of Kazakhstan and Turkmenia. Shipbuilders' plans for nearest years are to expand the geography of export supplies. Also should be noted the successful

development of radar absorbent PCM, used for the manufacturing of corvettes projects 20380 and 20385. Besides mentioned developments today at such MIC enterprises as Sredne-Nevesky shipbuilding plant, Steklonit, Research Institute of Polymers, Dougalak, Electroisolate and some others are performed R&D works for the development of fiber glass, metallic foam plastics, bonding vinyl ether resins, which earlier have been only imported [3].

Other enterprises have successfully mastered the manufacturing of PCM angle bearers for small scale and large scale ships, implemented technologies for the manufacturing of three layers PCM panels for manger sections, decks and deck-houses of surface ships. The development of the technology of the manufacturing of elements of PCM bodies of ships is going to be over. In 2017 was made the catalogue of items, which is expedient to manufacture of PCM for the ship building industry, and at enterprises of United Shipbuilding Corporation (USC) was implemented the production of experimental batches of such items. Obtained results became a new intensive for the application of modern PCM in the Russian ship building.

Conclusions

Results, obtained in the course of research, allowed to formulate following conclusions.

1. The implementation of branch import substantiation programs is as relevant as ever for the PCM manufacturing. First of all due to the active development and implementation of modern PCM in the manufacturing of the modern military technique and armaments. In this way are implemented competitive advantages of the Russian MIC.

2. The Federal program "Development of the Military & Industrial Complex" establishes the requirement for the step by step increase of the civil production volume at branch MIC enterprises. So, till the year 2020 the share of such production should grow in 1,3 times [4]. Accordingly should be also expected the growth of the share of PCM used for its manufacturing.

3. Already today its leading enterprises have got a huge number of projects, which implementation will cause the additional growth of the market and of modern PCM suppliers. Anyway, the successful implementation of this and other projects depends on the consequent and balanced state industrial policy in the field of finance, planning of the state defense order and on the weighed protectionism of all interested members, starting from state structures and ending by certain manufacturers of different kinds and types of the military technique and armaments.

Bibliography

1. Materials of the official site of the Industry and Trade Ministry of the Russian Federation [Electronic resource]. URL - <https://minpromtorg.gov.ru/>.

2. Materials of the official site of Rostech corporation [Electronic resource]. URL - <https://rostec.ru>.

3. Zazimko V. Application of composite materials as a driver of MIC branches // New defense order: strategies, 2017, №2(44).

4. Federal program "Development of the Military & Industrial Complex". Approved by the Decree of the RF Government № 425-8 of May 16 2016 [Electronic resource]. URL - [https://minpromtorg.gov.ru/common/upload/files/docs/44\[1\].pdf](https://minpromtorg.gov.ru/common/upload/files/docs/44[1].pdf).

Список литературы

1. Материалы официального сайта Министерства промышленности и торговли Российской Федерации [Электронный ресурс]. URL - <https://minpromtorg.gov.ru/>.

2. Материалы официального сайта корпорации «Ростех» [Электронный ресурс]. URL - <https://rostec.ru>.

3. Зазимко В. Применение композитных материалов как драйвер отраслей ОПК // Новый оборонный заказ: стратегии, 2017, №2(44).

4. Федеральная программа «Развитие оборонно-промышленного комплекса». Утверждена Постановлением Правительства РФ № 425-8 от 16 мая 2016 года [Электронный ресурс]. URL - [https://minpromtorg.gov.ru/common/upload/files/docs/44\[1\].pdf](https://minpromtorg.gov.ru/common/upload/files/docs/44[1].pdf).

УДК 338.001.36

ХИМЕРЫ ЛОББИСТОВ «ОБ УЩЕРБЕ РЕЧНЫХ ПЕРЕВОЧИКОВ ИЗ-ЗА МОНОПОЛЬНЫХ ТАРИФНЫХ СКИДОК ОАО «РЖД»

Леонтьев Рудольф Георгиевич

д-р экон. наук, профессор, почетный работник высшего профессионального образования РФ, главный научный сотрудник ВЦ ДВО РАН, г. Хабаровск, Российская Федерация;

DOI: [10.31618/nas.2413-5291.2019.2.46.56](https://doi.org/10.31618/nas.2413-5291.2019.2.46.56)

LOBBY CHIMERS "ON DAMAGE OF RIVER TRANSFERS BECAUSE OF MONOPOLY TARIFF DISCOUNTS OF JSC "RUSSIAN RAILWAYS"

Leontyev R.G.

Computer center of the Far East office Russian Academy of Sciences Khabarovsk, Russia

Аннотация

В статье рассмотрено стремление профессора и аспиранта вуза водного транспорта как-то представить лоббистские рассуждения о, якобы, «ущербе речных судоходных компаний из-за скидок с железнодорожных тарифов естественного монополиста - ОАО «РЖД», При этом доказано, что это стремление не только не получило должного воплощения, но и привело к неприемлемому распространению среди студентов, преподавательского корпуса, научной общественности и специалистов квазипредставлений о российском транспорте общего пользования вообще.

Annotation

The article discusses the desire of a professor and a graduate student of a university of water transport to somehow present lobbying arguments about, allegedly, "damage to river shipping companies due to discounts from the railway tariffs of the natural monopolist - JSC Russian Railways. It's proved that this desire is not only not only It was duly embodied, but also led to an unacceptable distribution among students, the teaching staff, the scientific community and specialists of quasi-representations about Russian public transport in general

Ключевые слова: Снижение железнодорожных тарифов, скидки ОАО «РЖД», конкуренция железнодорожного и внутреннего водного транспорта, переход грузопотоков, судоходные компании, рентабельность, обновление флота.

Keywords: Reduction of railway tariffs, discounts of Russian Railways, competition of railway and inland water transport, transit of cargo flows, shipping companies, profitability, fleet renewal.

Тот, кто думает, что обладает сиятельной мудростью, едет впереди осла и позади лошади.

«Дзенрин Кюсю»

Проблемы конкуренции между отдельными видами транспорта непрерывно исследуются и обсуждаются не менее 40 последних лет, соответствующие результаты давно общепризнаны и достаточно подробно приведены в многочисленных публикациях и обнародованных экспертных материалах. Вместе с тем многие новые авторы, явно незнакомые с указанными результатами, пытаются «открыть Америку» - снова кратко изложить уже известные и приведенные в газетах, тезисах конференций, студенческих пособиях и учебниках истины в весьма спорной собственной редакции. Причем эти авторы в своих, якобы, новоявленных публикациях,

как правило, предпочитают обходиться без положенных библиографических ссылок на указанные источники и даже на статьи в рецензируемых научных изданиях, фундаментальные труды и другие исследовательские работы монографического характера.

Типичным примером такого объявленного редакцией указанного ниже сборника материалов конференции «научного авантюризма» является тезисный доклад (Бодровцева Н.Ю., Пантина Т.А. Конкуренция между отдельными видами транспорта: экономические и правовые аспекты // Логистика: современные тенденции развития: материалы XVII междунар. науч.-практ. конф. - Ч. 1. - СПб.: Изд-во ГУМРФ им. адм. С.О. Макарова, 2018. - С. 85-90). Его авторы - участники научно-