

---

*Peer-Reviewed Article*

---

## Problém “černého pasažérství” v Alianci

### Free-Riding Problem in Alliance

**Jakub Odehnal**

**Abstrakt:** Dlouhodobé snižování vojenských výdajů evropských aliančních zemí zapříčinilo rozevírání nůžek uvnitř Aliance projevující se nerovnoměrným sdílením vojenského břemene a chováním označovaným jako tzv. černé pasažérství. Cílem příspěvku je vymezit možné přístupy k identifikaci tzv. černého pasažérství a analyzovat vývoj vojenských výdajů ve vazbě na závěry a doporučení summitu NATO z roku 2014. Výsledky analýzy vojenských výdajů identifikují jen velmi malou skupinu zemí dlouhodobě plnících alianční doporučení ve formě alokace odpovídající částky jako podílu na HDP země a ve formě doporučené struktury vojenských výdajů.

**Abstract:** Long-term cuts in military expenditures of European allied countries caused growing differences within the Alliance which can be seen in uneven sharing of military burden and in behaviour called free-riding. The aim of this contribution is to define possible approaches to the free-riding identification and to analyse military expenditure development in relation to conclusions and recommendations declared at the NATO Summit in 2014. The results of military expenditure analysis identify only a small group of countries which, from a long-term point of view, follow the recommendations of the Alliance in the form of allocating a corresponding amount as percentage of GDP and in the form of a recommended structure of military expenditures.

**Klíčová slova:** vojenské výdaje; obranný rozpočet; černý pasažér

**Keywords:** Military Expenditures; Defence Budget; Free Rider

## INTRODUCTION

The conclusions presented at the NATO Summit in Wales confirm that the European allied countries are supposed to be responsible for their own security in the form of a wide consensus in gradual increase of military expenditures. Current changes in security environment of many European countries, which in the post-cold war time were not threatened by traditional military power and naturally existed in an illusional environment of a long-term peace time, enhanced pressure on increasing military expenditures due to the current security crisis. Unfortunately, military expenditures used to be systematically undervalued by many, especially, European countries in the long run. Apart from the perception of real security threats, the decreasing trend of military expenditures of allied countries was caused by difficult economic situation of the countries, economic systems which had to face consequences of economic and especially fiscal crisis. Different development of determinants which influence the amount of military expenditures in individual countries causes uneven sharing of military burden of allied countries' economies, which can be seen in deepening differences within the Alliance and in behaviour which is in the economic theory called free-riding.

## ECONOMIC THEORY OF FREE-RIDING IN NATO

In spite of the fact that military expenditures of the Alliance member countries represent the majority of world military expenditures, it is important not to believe blindly in safe Europe, and, via responsible defence policy provide sustainability and development of allied forces. Military expenditures of allied countries were and currently are constantly influenced by economic<sup>1</sup> and security environment development<sup>2</sup> resulting in fiscal and security risks.

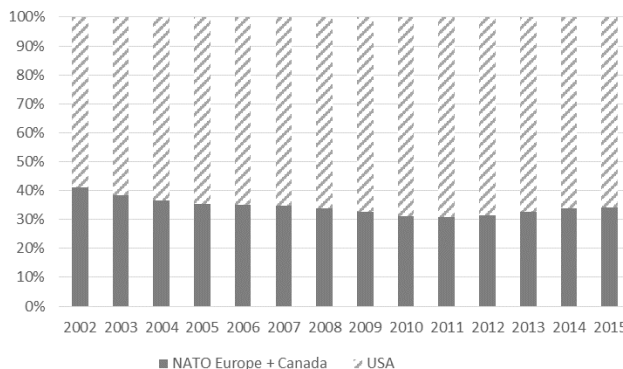
By comparing the absolute values of the amounts of military expenditures of Alliance member countries in the time after the terrorist attacks in the USA, there can be seen apparent dominance of military expenditures of the USA shown in Graph 1. It describes proportional share of military expenditures of the USA in the total military expenditures of the Alliance. The dominant position of the USA can also be seen in mutual comparison of the amount of military expenditures as a share in GDP of the country identifying only a small group of the Alliance countries (Greece, Great Britain, and the USA) which spend (in the long run) the required amount of military expenditures in the form of political obligation, i.e. 2% of GDP, to provide security.

The cause of the long-term undervaluation process in the field of defence, in relation to the Alliance's recommendations, that can be seen in uneven sharing of military expenditures, results from the nature of defence itself as the so called public good<sup>3</sup>.

<sup>1</sup> NIKOLAIDOU, Eftychia. The demand for military expenditure: evidence from the EU15 (1961–2005). *Defence and Peace Economics* Vol. 21, No. 3, 2008, pp. 273–292.

<sup>2</sup> DUNNE, J. Paul, Eftychia NIKOLAIDOU, and Nikolaos MYLONIDIS. The demand for military spending in the peripheral economies of Europe. *Defence and Peace Economics* Vol. 14, No. 6, 2003, pp. 447–460.

<sup>3</sup> SANDLER, Todd and MURDOCH, James. C. On Sharing NATO Defence Burdens in the 1990s and Beyond. *Fiscal Studies*, 21, 2000, pp. 297–327.



**Graph 1:** Defence expenditures (million US dollars, constant prices)

Source: SIPRI Military Expenditure Database 2015<sup>4</sup>

In economic theory, the existence of a public good is connected with market failure. Providing a public good such as e.g. the defence, is one of the functions of fiscal policy implemented by a government of a given country. In order to secure the country from both possible military and non-military threats, finances called military expenditures<sup>5</sup> are used under the terms of the process of allocating sources from the state budget.

The current concept of a public good coming from the typology published by Samuelson<sup>6</sup> represents classification of a public good based on the general characteristics, i.e. they are so called non-excludable and non-rival. Via these characteristics, it is possible to create a classification for a private good, which is characterised by its excludability and rival consumption, and for a public good, characteristics of which is that it is not possible to exclude anyone from its consumption. At the same time, it is true that a growing number of consumers does not decrease the ability of other consumers to consume the good. Hampl<sup>7</sup> critically points out a lot of hidden problems included in the approach of Samuelson's theory<sup>8</sup>, when, e.g. he disproves the absolute non-rival ability of the defence. As an example he takes the army which, due to its war time activities, gains new territories as an example of war booty together with the growing number of population. Without

<sup>4</sup> SIPRI Military Expenditure Database 2015, <http://milexdata.sipri.org>

<sup>5</sup> The SIPRI definition of military expenditure includes all current and capital expenditure on the following activities: the armed forces (including peace-keeping forces), the civil administrations of the military sector (defence ministries and other government agencies engaged in defence activities), paramilitary forces (non-regular armed forces to be trained, equipped and available for military operations) and military space activities. Such expenditure should include the following components: personnel, operations and maintenance, arms procurement, military research and development (R&D), military construction, and military aid.

<sup>6</sup> SAMUELSON, Paul. *The Pure Theory of Public Expenditure*. Review of Economics and Statistics, XXXVI, 1954, pp. 387-389.

<sup>7</sup> HAMPL, Mojmír. Trojí přístup k veřejným statkům. Finance a úvěr. 51(2), 2001, 111-125.

<sup>8</sup> SAMUELSON, Paul. *The Pure Theory of Public Expenditure*. Review of Economics and Statistics, XXXVI, 1954, pp. 387-389.

additional expenditures, the army will not be able to defend the new inhabitants due to the number of soldiers, vehicles and equipment (which was planned for the original size of the territory) and the number of population. Similarly, Murdoch and Sandler<sup>9</sup> consider the characteristics of defence to be rather a mixed good.

If we consider the collective defence, provided by e.g. the military NATO Alliance consisting of 28 member countries, to be purely a public good, the expected utility for individual members have to, according to Samuelson<sup>10</sup>, be non-rival and non-excludable. An example of a non-rival character of the NATO collective defence was the policy of intimidation executed via strategic nuclear weapons located in the Alliance member countries. The weapons were able to intimidate the adversary regardless of the number of member countries or the number of inhabitants. Non-excludability of the utility comes from the Alliance collective defence characteristics when any attack launched against the Alliance members is perceived as an attack against the whole Alliance. The Alliance is, then, obliged to protect the member countries. It is not possible to exclude any member country from the defence. According to Murdoch and Sandler<sup>11</sup>, the collective defence provided as a public good, which relies on the policy of intimidation, necessarily leads to uneven sharing of military burden among the Alliance members, which is disadvantageous for big member countries. This leads to the behaviour called free-riding<sup>12</sup>.

At the same time, authors Murdoch and Sandler<sup>13</sup> point out the fact that the defence can appear in the form of a mixed good or a private good. The mixed good can be in the form of a good, nature of which is characterised either by excludability from the utility consumption or by rivalry. In case of excludability from the utility consumption coming from the joint collective defence, it is possible to use the example given by Murdoch and Sandler<sup>14</sup> who describe the behaviour of conventional allied troops guarding the boundary line of a perimeter at a certain territory of the Alliance. The decision to guard this territory partially excluded the ally, at grounds of which the troops were not deployed, from consuming the utility. At the same time, it is even possible to illustrate a potential rivalry in consumption, when the joint allied troops, guarding the borders between the member and non-member states of the Alliance, significantly enhance the hazard of vulnerability of the non-guarded territory of the Alliance. The result is the existence of rivalry in consumption. The private good that is utilized for a particular country of the Alliance but not for the Alliance as a whole is, for example, the effort of Great Britain during the process of terrorist activities elimination in Northern Ireland, or during the Falklands War, where Great Britain was the only

<sup>9</sup> SANDLER, Todd and MURDOCH, James. C. On Sharing NATO Defence Burdens in the 1990s and Beyond. *Fiscal Studies*, 21, 2000, pp. 297-327.

<sup>10</sup> SAMUELSON, Paul. Pure Theory of Public Expenditure and Taxation. In: Margolis, J. D. Guitton, H. (eds.): *Public Economics: An Analysis of Public Production and Consumption and their Relations to the Private Sector*. London, Macmillan, 1969.

<sup>11</sup> SANDLER, Todd and MURDOCH, James. C. On Sharing NATO Defence Burdens in the 1990s and Beyond. *Fiscal Studies*, 21, 2000, pp. 297-327.

<sup>12</sup> OLSON, Mancur, and Richard ZECKHAUSER. *An economic theory of alliances*. The Review of Economics and Statistics. 1966, pp. 266-279.

<sup>13</sup> SANDLER, Todd and MURDOCH, James. C. On Sharing NATO Defence Burdens in the 1990s and Beyond. *Fiscal Studies*, 21, 2000, pp. 297-327.

<sup>14</sup> SANDLER, Todd, and MURDOCH, James. C. On Sharing NATO Defence Burdens in the 1990s and Beyond. *Fiscal Studies*, 21, 2000, pp. 297-327.

country which profited from it. Similar example of defence as a private good can be seen in the behaviour of Turkey and Greece in their cause of the long-term dispute over Cyprus.

From the general classification of the public/private good point of view, it is possible to consider the Alliance defence to be purely a public good in the era of Cold War, when the strategic conception of Forward Defence and severe multinational retaliation using the U.S. nuclear weapons to protect all member countries was realized. Combination of defence production as both a private and public good can be labelled as defence in the form of a mixed good, mostly used by NATO in the 70's, in connection with the concept of the so called Flexible Response leading to enhancing the significance and putting into practice conventional weapon systems under the terms of providing defence to NATO member countries. In the current concept of NATO, it is characterised as a sort of a club good; however, it is still possible to observe inhomogeneity in the willingness of individual member countries to finance this good (as a result coming from the existence of real non-excludability), which is mainly seen in the long-term undervaluing of the allied troops. This lies in continuous non-fulfilment of recommended values of the amount of military expenditures as a share on GDP, or in a recommended structure of spending the military expenditures.

## MEASUREMENTS OF FREE-RIDING (EMPIRICAL ANALYSES)

According to a general definition used by authors<sup>15</sup>, the free-riding can be defined as behaviour of a member country which gains more utility from the membership than the money it spends on the matter of defence. From a general point of view, possible approaches toward the free-riding identification within the Alliance can be defined as follows:

- [1] Approaches coming from utility and expenditures quantification (see general definition of free-riding);
- [2] Approaches coming from analysis of the relationship between military expenditures and economic power of a country (so called hypothesis of exploitation);
- [3] Approaches coming from the estimate of military expenditures demand;
- [4] Alternative approaches toward free-riding identification.

Approaches coming from the utility and expenditures analysis<sup>16</sup> were addressed by the authors<sup>17</sup> analysing the behaviour of 27 member countries of the Alliance in 2007-

<sup>15</sup> JANELIŪNAS Tomas and Martynas ZAPOLSKIS. Lithuania as a Rational Free Rider in NATO. In Robert Czulda, Marek Madej. *NEWCOMERS NO MORE? Contemporary NATO and the Future of the Enlargement from the Perspective of "Post-Cold War" Members*. 1. vyd. Warsaw - Prague - Brussels: International Relations Research Institute in Warsaw, 2015. ISBN 978-83-62784-04-2.

<sup>16</sup> SANDLER, Todd and Keith HARTLEY. Economics of Alliances: The Lessons for Collective Action. *Journal of Economic Literature*, Vol. 39, No. 3, 2001, pp. 869-896.

<sup>17</sup> JANELIŪNAS Tomas and Martynas ZAPOLSKIS. Lithuania as a Rational Free Rider in NATO. In Robert Czulda, Marek Madej. *NEWCOMERS NO MORE? Contemporary NATO and the Future of the Enlargement from the Perspective of "Post-Cold War" Members*. 1. vyd. Warsaw - Prague - Brussels: International Relations Research Institute in Warsaw, 2015. ISBN 978-83-62784-04-2.

2012. The authors of the article use the above mentioned approach based on expenditure quantification related to the Alliance membership and utilities coming from this membership. Those countries which acquire more utilities than expenditures in the Alliance are called free riders. Apart from the analysis itself, the authors designed the so called NATO burden sharing index for all member countries. The index lies in the rate between the quantified expenditures and utilities. If the index value is lower than 1, the authors characterise the country to be a free rider. The authors use three indicators for the quantification itself: the amount of military expenditures of the ally, contribution to the NATO operation in Afghanistan (number of deployed troops, number of casualties, financial and humanitarian assistance to Afghanistan), and commitment compliance. In order to quantify the utilities coming from the Alliance defence, the authors use the amount of GDP and number of population as a variable defining the size of the Ally respecting the economic theory of the Alliance<sup>18</sup>, when the authors assume that especially small countries have bigger utility coming from the Alliance membership due to lower real ability to provide external security by merely their own military forces. The last variable characterizing the utilities is the length of external border reflecting geo-political position of the country, where especially eastern allies (countries which have common borders with Russia) acquire bigger utility from the collective defence than the countries geographically localised in Western Europe. From the results of the constructed index it is apparent that within the analysed years, based on the comparison of utilities and expenditures coming from the Alliance membership, countries such as Greece, Slovakia, Hungary, Poland, Bulgaria, Slovenia, Turkey, Estonia, Lithuania, Latvia, Romania, Luxemburg, and Albania can be characterized as the so called free riders.

The same approach as in the previous case is taken by the authors<sup>19</sup> who analyse behaviour of 15 allies in 1970-1998 via expenditure quantification (size of the so called military burden as a size of military expenditures of the country as a share on the entire military expenditures of the Alliance) and utilities (the authors perceive the utilities in the form of defence provided for the population, economic base, and country's border expressed as a proportional share on the total size of the given aggregated variable of the Alliance). From the results of the last analysed year (1998) it is apparent that the authors include the following countries in the group of free riders, i.e. countries which gain more utility than expenditures: Belgium, Denmark, Germany, Greece, Luxemburg, Norway, Portugal, Spain, Turkey, and Canada.

The authors<sup>20</sup> analyse the uneven sharing of military burden caused especially by different sizes of economic systems of allies. They use the example of 18 allied economic systems in 1988-1999. By way of correlation analysis, the authors analyse the hypothesis of a positive relationship existence between the amount of GDP of a country and the share of military expenditures on gross domestic product. The authors' aim is to prove the so called hypothesis of exploitation that lies in uneven

---

<sup>18</sup> SANDLER, Todd and MURDOCH, James. C. On Sharing NATO Defence Burdens in the 1990s and Beyond. *Fiscal Studies*, 21, 2000, pp. 297-327.

<sup>19</sup> SANDLER, Todd and Keith HARTLEY. Economics of Alliances: The Lessons for Collective Action. *Journal of Economic Literature*, Vol. 39, No. 3, 2001, pp. 869-896.

<sup>20</sup> SANDLER, Todd, and MURDOCH, James. C. On Sharing NATO Defence Burdens in the 1990s and Beyond. *Fiscal Studies*, 21, 2000, pp. 297-327.

sharing of military expenditures, which can be seen especially in the big allies' economic systems. These countries carry unevenly bigger economic burden of defence than the economically weaker allies. Relatively low and statistically insignificant values of Spearman's correlation coefficient estimated for each year suggest that in the time of the post-cold war period less economically developed countries did not exploit the more developed ones. However, the authors warn that in the case of accepting new countries in the Alliance (there are 9 possible scenarios), based on the correlation analysis results, there is a probable increase in uneven sharing of military burden between allied economic systems of traditional member countries and new member countries, which is characterised by the behaviour called free-riding.

Increasing disparities between traditional member countries and new member countries were analysed e.g. by Odehnal. The author<sup>21</sup> confirmed that the Alliance is not mainly an economically homogenous body and individual economies thus allocate a significantly different amount of GDP for the needs of the armed forces in dependence on political priorities of individual governments, public finances or overall economic condition of national economies. However, the results of the classification model reveal the fact that group of countries identified as core states of the "traditional" NATO member states do not allocate the long-term recommended amount of military expenditure of 2% of GDP. These countries are suspected of dangerous free-riding. The approach of free-riding identification based on demand for military expenditures estimate can be seen in the article<sup>22</sup> where military expenditures of Spain are described as a function of economic and security variables. In this concept, the variable identifying free-riding is described as an economic variable expressing the sum of military expenditures of allied economic systems, excluding Spain, and its link to military expenditures of Spain. The results of econometric model characterizing determinants of military expenditures suggest that in the analysed period (1977-1997) there was an increase in military expenditures of Spain (especially after Spain joined the Alliance). Nevertheless, this increase was lower when compared with the development of military expenditures of other analysed allies. Thus, the authors confirmed the hypothesis of free-riding of Spain in 1983-1997.

An alternative approach towards the allies' economics evaluation can be seen in the article by Plumper, Neumayer<sup>23</sup> who use quasi-spatial approach to testing augmented predictions of the free-riding. An alternative interpretation is based on the premise that incentives to free ride are a function of the safety level of NATO members. Changes to this safety level are triggered by the growth in US spending on the one hand and growth in Soviet spending, if in excess of US spending, on the other hand. From the results it is apparent that in the analysed period 1956- 1988 the authors confirmed the existence of free-riding of 11 allies (Canada, Great Britain, The Netherlands, Belgium, France, West Germany, Italy, Greece, Norway, Denmark,

---

<sup>21</sup> ODEHNAL, Jakub. Military Expenditures and Free-Riding in NATO. *Peace Economics, Peace Science and Public Policy* Vol. 21, No. 4, 2015, pp. 479-487.

<sup>22</sup> DE LA FE, Pedro GONZALEZ, and Daniel MONTOLIO. Has Spain been free-riding in NATO? An econometric approach. *Defence and Peace Economics* Vol. 12, No.5, 2001, pp. 465-485.

<sup>23</sup> PLÜMPER, Thomas, and Eric NEUMAYER. Free-riding in alliances testing: An old theory with a new method. *Conflict Management and Peace Science*, 2014.

Turkey) and they refused the hypothesis of free-riding only in the case of Portugal, which was characterised this way only in the period of Salazar's and then Caetano's government dictatorship. In the time of democratic government, Portugal is, as well as other Alliance economic systems, characterised as a free rider. At the same time, however, the analysis results confirm that the level (intensity) of free-riding mainly depends on the location of the country. The allies located geographically closer to the Soviet Union showed lower intensity of free-riding than the countries bordering with other European countries. Conclusions of the above mentioned studies are shown in Table 1.

**Table 1:** Past studies of defence burdens and free-riding

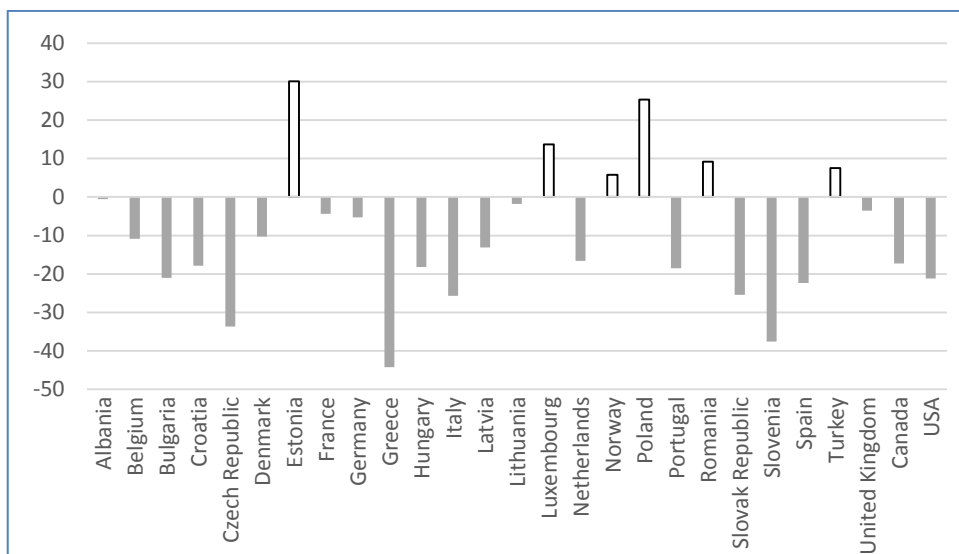
<i>Study</i>	<i>Methods</i>	<i>Years</i>	<i>Results (free riders)</i>
<i>Tomas Janelūnas, Martynas Zapolskis. Lithuania as a Rational Free Rider in NATO</i>	Defence burdens and benefits	2007 2012	Greece, Slovakia, Hungary, Poland, Bulgaria, Slovenia, Turkey, Estonia, Croatia, Estonia, Latvia, Lithuania, Romania, Luxembourg, Albania
<i>Sandler T and Hartley K (2001) Economics of alliances: The lessons for collective action</i>	Defence burdens and benefits	1970 1998	Belgium, Denmark, Germany, Greece, Norway, Luxembourg, Portugal, Spain, Turkey, Canada
<i>Sandler, T., Murdoch, J. (2000) On Sharing NATO Defence Burdens in the 1990's and Beyond</i>	Corelation	1988 1999	During 1990-99 there is no evidence of disproportionate burden sharing, where the large allies shoulder the burdens of the small.
<i>Gonzalez, P., Montolio, D. (2001) Has Spain been free-riding in NATO? An econometric approach</i>	Regression	1983 1997	Spain
<i>Plümper, Thomas, and Eric Neumayer. "Free-riding in alliances testing: An old theory with a new method</i>	Quasi-spatial approach	1956 1988	Canada, Great Britain, Netherlands, Belgium, France, Portugal, West Germany, Italy, Greece, Norway, Denmark, Turkey

## EMPIRICAL RESULTS

Results of the empirical research which analysed the behaviour of the Alliance countries' economic systems confirm the existence labelled as free-riding, which can be seen in a long-term not-following the recommended amount of military expenditures spent on providing defence of individual allies and in deepening the differences between the amount of military expenditures of the USA and the European allied economic systems, which gradually leads to moral and technological slowdown of European allied armies. Decrease in military expenditures of the allies was significantly influenced by the economic crisis, which was seen in the drop of the



amount of GDP of 24 allied economic systems in 2009. By comparing changes in military expenditure development (constant prices) in 2009-2014 (see Graph 2) it is apparent that most of the allies significantly decreased their military expenditures in the time of the economic crisis escalation. Apart from Estonia, Luxembourg, Norway, Poland, Romania, and Turkey, the rest of the allies were not able to reach at least identical amount of military expenditures in 2014 in comparison with 2009, i.e. the year of economic crisis escalation.

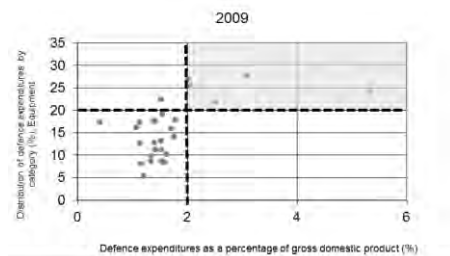


**Graph 2:** Changes in military expenditures (constant price) in 2009-2014 (%)

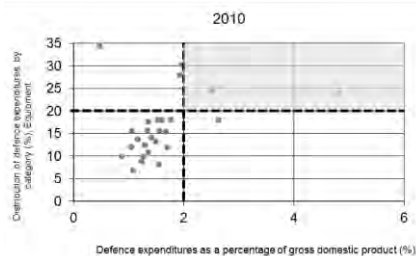
The Alliance's response to reducing military expenditures was, apart from other things, its declaration as one of the NATO Summit conclusions in Wales, 2014. The recommendations themselves, coming from the declaration, that lead to averting the trend of further military expenditure cutting, were formulated in the following way:

- Aim to increase defence expenditure (minimum 2% of GDP on defence);
- Aim to spend more than 20% of defence budgets on major equipment, including Research and Development.

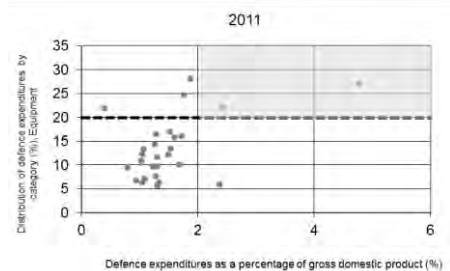
Meeting the current requirement i.e. to follow the recommended amount of military expenditures as a share of 2% on country's GDP and more than 20% of military expenditures on major equipment, including related Research and Development, is shown in Graphs 3-9. The pictures clearly show the effect of economic crisis, characteristics of which is the reduction in military expenditures in all countries of the Alliance. As a result, there is a concentration of individual objects in Graphs 3-9 (the scatter points represent individual countries), especially in the bottom left hand part, which shows values lower than 2% of the GDP and lower than 20% of expenditures on major equipment, including related Research and Development.



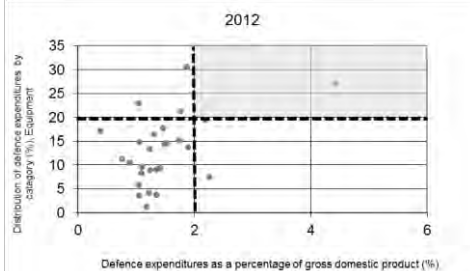
**Graph 3:** Defence expenditures vs. equipment (2009)



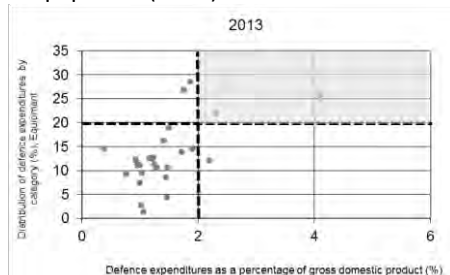
**Graph 4:** Defence expenditures vs. equipment (2010)



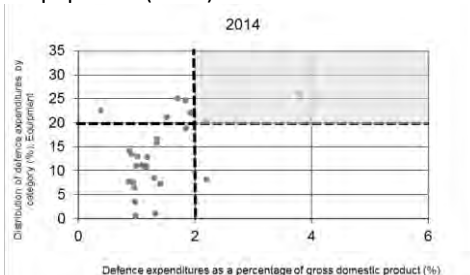
**Graph 5:** Defence expenditures vs. equipment (2011)



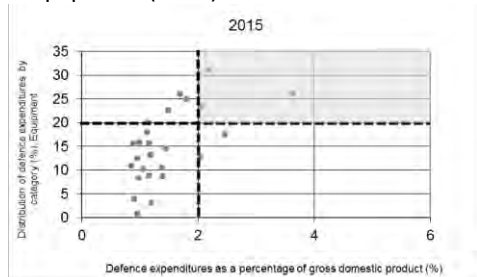
**Graph 6:** Defence expenditures vs. equipment (2012)



**Graph 7:** Defence expenditures vs. equipment (2013)



**Graph 8:** Defence expenditures vs. equipment (2014)



**Graph 9:** Defence expenditures vs. equipment (2015)

The more detailed analysis of military expenditure development as a share on GDP  
58

and a share of investments on the amount of military expenditures confirms the decrease in military expenditures of the Allies. In Graph 3 it is apparent that in 2009 five allies (France, Greece, Turkey, Great Britain, and the USA) followed the Alliance's guideline. The countries are shown in the right upper part of the graph. In the following years (2010, 2011, 2013, 2014) it was only Great Britain and the USA, in 2012 the USA only, and in 2015 the USA, Great Britain, and Poland. The position of Poland as the only representative of the "new" allies confirms the responsible approach of Poland toward the defence of its own territory and toward the Alliance's obligation which lies in a long-term growth of military expenditures as a share on the country's GDP.

The Wales NATO Summit conclusions, which expressed the willingness of the Allies to stop the trend of reducing military expenditures (apart from Poland), are followed by further 18 Alliance economies (the Czech Republic<sup>24</sup>, Denmark, Estonia, France, Germany, Greece, Hungary, Lithuania, Latvia, Luxembourg, The Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Spain, and Portugal) which interannually increased the amount of military expenditures and thus approached rationally and responsibly the defence of allies in the time when current security situation in Europe and Russia's activities in the east of Ukraine lead the Alliance back to its roots, i.e. the ability to defend the allies against military threat.

## CONCLUSION

The current security situation in Europe and Russia's activities in the east of Ukraine lead the Alliance back to its roots, i.e. the ability to defend the Allies against military threat. Low probability of a direct military assault on the Alliance territory after the end of the Cold War era made the allied countries' governments reduce the investments in their own security, which can be seen in the behaviour called free-riding. From the long term point of view, only a small group of the NATO countries fulfil the recommended values of allocating minimum 2% of GDP to defence. Nevertheless, 18 NATO countries followed the NATO Summit conclusions to stop this trend of reducing military expenditures. In 2015 these countries agreed to increase military expenditures, which represents a responsible approach toward both their own and collective security. Not respecting and ignoring the requirement to increase military expenditures would lead to further increasing the differences among the Alliance countries, as well as between the Alliance and some non-member countries which

<sup>24</sup> More detailed description of development of military expenditures in the Czech Republic is presented by: MIČÁNEK, František, HOLCNER, Vladan, ODEHNAL, Jakub, OLEJNÍČEK, Aleš, ŠULC, František, Zdrojové zajištění obrany České republiky: Perspektivy a možnosti, *Vojenské rozhledy*, 2014, vol. 23 (55), no. 3, pp. 9-21, ISSN 1210-3292 (tištěná verze), ISSN 2336-2995.

BRIZGALOVÁ Lenka, *Vojenské výdaje a jejich vyhodnocení ve vybraných zemích Evropské unie*, *Vojenské rozhledy*, 2012, vol. 21 (53), no. 4, pp. 111-121, ISSN 1210-3292.

MIČÁNEK, František, a kol., *Zpráva o stavu zabezpečení obrany ČR v roce 2014 - mýty a realita*, *Vojenské rozhledy*, 2014, vol. 23 (55), no. 2, ISSN 2336-2995 (on line), available at <http://www.vojenskerozhledy.cz/aktuality/2-uncategorised/66-zprava-o-stavu-zabezpeceni-obrany-cr-v-roce-2014-myty-a-realita>

PROCHÁZKA, Josef. *Adaptation of the Czech Republic Defence Policy - Lessons Learned*. Security and Defence, 2015, vol. 6, no. 1, pp. 15-28. ISSN 2300-8741.

significantly increase their military expenditures and thus become more powerful with the potential to influence both regional and global events. The policy of the long-term reduction of military expenditures of some Alliance member countries would be a significant security threat of a continuous internal character, however, resolvable by responsible policy toward both own and collective security.

---

**Author**

**Assoc. Prof. Jakub Odehnal, Ph.D.**, (born in 1982) is a lecturer at the University of Defence in Brno, Czech Republic, where he teaches courses in Economy Policy of the European Union, Microeconomics and Macroeconomics. He earned a Ph.D. degree in Economic Policy from the Masaryk University (Faculty of Economics and Administration). His main research interest is an application of multivariate statistical methods in economics. Specifically, he is interested in evaluating of the determinants of military spending and issues of the international security environment.

---

**How to cite:**

ODEHNAL Jakub, Free-Riding Problem in Alliance., *Vojenské rozhledy – Czech Military Review*. 2016, 25 (Mimořádné číslo), pp 549-60. DOI: 10.3849/2336- 2995.25.2016.05.049-060. ISSN 1210-3292 (print), 2336-2995 (on-line). Available at: [www.vojenskerozhledy.cz](http://www.vojenskerozhledy.cz)