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**MILITARY SPENDING AMONG EUROPEAN NATO MEMBERS.  
THE IMPORTANCE OF STRATEGIC FACTORS AFTER 2014**

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**Abstract.** The Russian Federation, with its plans to regain influence over former Soviet bloc countries, currently constitutes the main military danger for the EU and NATO. Because the war is so close to the EU's borders, European allies have every reason to increase army financing instead of fuelling a transatlantic disagreement about burden sharing. This article deals with the question of whether the high strategic threat posed by Russia has increased military spending among European allies and decreased free-riding practices after 2014. To analyse this problem, we applied Spearman's Rank Correlation test and then made a comparative analysis of 21 countries that are both EU and NATO members. Our results confirmed that European allies did not react in the same way to the Russian threat. We proved that strategic factors played a key role in the majority of Eastern European members of NATO, but not across Western European allies.

**Keywords:** defence expenditure; national security; statistical analysis

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## 1. Introduction

The conflict with Georgia in 2008, the invasion of Donbas in 2014, and the war that Russia has been waging on Ukraine since February 2022 clearly show that NATO, and mainly the European Union (EU), have been facing a great strategic threat recently. Potential confrontation requires higher than ever public expenditures on defence in order to deter the aggressor and prevent its military expansion, or in the worst-case scenario, to fight against it.

Apart from sharing the same strategic objectives in NATO, there is still a problem between allies with burden sharing. In response to extreme actions of the Russian Federation over the last decade, the European approach to collective defence has changed and is increasingly driven by strategic factors. Wu and Slander (2020) claim that allies must share the obligation that have arisen not only in the face of growing Russian nationalism, but also with regards to the costs of peacekeeping missions and the battle against transnational terrorism. Without high and comparable spending on defence, first, NATO will become a two-tier alliance in which many countries will not have the capabilities to conduct combat missions owing to their obsolete weaponry, insufficient R&D, reduced forces, and inadequate training (Gates, 2011). Second, Europe will be unable to conduct operations without the support of US in the era of strategic competition (Fiott, 2022).

When a country's national economic policy sets its defence spending at less than 2% of GDP every year, it is considered a "free rider" in NATO. Free-rider countries invest little into defence, and rely instead on other countries which have a higher commitment to financing collective defence. Unfortunately, many European allies have come to prefer such an approach, which has fuelled a transatlantic disagreement between the US

and those European countries that are neglecting military engagement. For the purposes of this text, the term “European Allies” refers only to 21 countries. We did not consider Austria, Finland, Sweden, Ireland, Malta, and Cyprus, as we concentrated on strategic motives that are closely connected with NATO.

In 2011, US defence secretary R. Gates criticized European allies for their unequal burden sharing. In response to the Russian invasion of Donbas in 2014 along with the illegal annexation of Crimea from Ukraine, all NATO allies pledged, at the 2014 Wales Summit, to spend at least 2% of their GDP on defence. At the same time, they also committed to increasing their procurement of new military equipment to 20% of their annual defence budget within the next decade. The recognition of the growing Russian threat led European allies to take a new approach towards strategic factors in their economic policies. However, in the following years, US presidents Obama (in 2016) and Trump (in 2017) complained about the still only moderate financial commitments of European allies to collective defence (Mattelaer, 2016; Jakobsen and Jakobsen, 2019).

Taking all the afore-mentioned into account, we investigate whether Russian military actions have triggered a reaction among European NATO member countries, measured by a positive change (increase) in military spending. We also try to evaluate the specific characteristics of free-riding in Europe after 2014. To reach these goals, we first map the role of factors from the strategic area for public spending on defence. Secondly, we outline the causes for inadequate financial commitment in the NATO alliance (free-riding). Then, we apply Spearman’s Rank Correlation to check the impact of strategic threats on defence expenditure in European NATO member countries after 2014. In addition, using a comparative analysis, we examine how domestic policies reacted to the emergence of a strategic threat across two groups of allies: Western countries and the former Soviet and satellite states (Eastern countries). We end with a brief discussion and draw some conclusions.

To sum up, our piece confirms that EU NATO member countries’ response to growing strategic threats was heterogenic. While Eastern countries were more involved and increased expenditure on collective defence, Western countries tended to maintain the same level of military spending as previously.

## 2. Strategic determinants of military spending

Strategic factors emerge from one out of the three areas impacting national budgetary decisions about spending on defence. As Dunne and Perlo-Freeman (2003) as well as Gadea et al. (2004) notice, military spending is dependent on strategic, socioeconomic and political factors in the post-Soviet era. Nonetheless, because of Russian military invasion of Ukraine in 2014, the strategic ground has gained prominence over the last decade.

The strategic aspect concerns domestic and external factors influencing the sense of insecurity within the country (Table 1). The same triggers can impact national economic policy, and affect the scale of public spending on defence. War (terrorism) is evaluated as the highest of all strategic threats to national sovereignty and the lives of ordinary people. In the globalized and digital world, society has easy access to information and the probability of armed conflict cannot be hidden. Widespread fear in a society motivates governments to spend more on their army (including buying weapons), particularly when faced with the threat of war.

**Table 1.** Strategic area: factors impacting military spending

No.	Factors
1	Threat of war, terrorism
2	International alliance
3	Length of borders
4	Size of population
5	Distance to the potential enemy
6	Arms race
7	Strength of rivals’ army
8	Rivals’ expenditure on army

*Source:* George and Sandler (2018); Waszkiewicz (2014); Dunne and Perlo-Freeman (2003); Sandler and Hartley (1999).

“International alliance” is a kind of umbrella that is designed to defend all allies. NATO Article 5 guarantees that if one member is attacked, it will be defended by the other NATO allies. Nonetheless, being part of the alliance carries not only benefits, but obligations as well. A permanent financial commitment to building a national (international) collective defence is a burden on national public budgets. Public spending on the defence sector should amount to at least 2% of GDP per year (North Atlantic Council 2014). However, being a NATO member often tempts countries into limiting their defence spending, leaving the responsibility of ensuring security for their citizens to other allied countries. States who engage in this practice are known as “free riders”. Unfortunately, some nation-states prefer to allocate more public resources from military production to civilian production which results in higher consumption, investment and net exports to the benefit of national economies. This practice has been known in economics as the peace dividend strategy (Barker, Dunne, and Smith, 1991).

The problem of free-riding is as old as NATO itself. The first NATO strategic doctrine assumed that deterrence potential is based on mutual assured destruction (MAD), and any attack on the territorial integrity of NATO’s European allies would be met by a swift launch of nuclear ballistic missiles that would inflict catastrophic damage on the aggressor. On this ground, Olson and Zeckhauser (1966) proposed an economic theory of alliance connected with the provision of public goods (Samuelson, 1954). They claim that any ally can be excluded from the benefits of sustained peace (non-excludable good), and, adding an additional country to the alliance does not decrease the level of peace available to other NATO members (non-rivalry good). The authors characterize NATO as sharing a purely public good – deterrence. Nonetheless, from the beginning, Olson and Zeckhauser (1966) predicted that some nations would be exploited by others. Even in the 1950s and 1960s, there were only a few countries that had nuclear ballistic missiles; accordingly, these countries automatically became the security providers who paid more into the collective defence (USA, UK, and France) along with West Germany, who was responsible for NATO’s eastern border.

Sandler and Hartley (2001) as well as Sandler and Shimizu (2014) report a clear tendency among smaller allies to exploit their wealthy peers in terms of defence financing. In turn, George and Sandler (2021) emphasize that the wealthy allies have borne disproportionately large defence costs, especially since 2007. Nonetheless, it is claimed that there was a better allocation of obligations after the implementation of NATO’s Flexible Response Strategy (1967), which assumed a complementary utilization of strategic, tactical, and conventional forces. Anticipated complementarity between weapon types would have limited free riding. However, the end of the Cold War (1991) forced NATO to reinvent itself as a protector of European interests with peacekeeping missions. Unfortunately, such missions gave allies opportunities for free-riding. This problem was exacerbated by the accession of new entrants, which increased the heterogeneity of NATO membership, and the War on Terror (Sandler, Shimizu, 2016). To prevent unfair burden sharing in the 21<sup>st</sup> century, NATO started a discussion about collective defence spending ratio (DSR, 2% of GDP) at the Prague Summit in 2002. Of course, defence spending ratio is not the only measure to evaluate burden sharing in NATO (Sandler and Hartley, 1999), however, it is suitable indicant for comparisons, therefore, we concentrated on that one in further analysis.

While the DSR determines the minimum outlays on defence, considering factors 3 to 5 in Table 1, there is a need for more national financial responsibility depending on each ally’s geographical location and population. If a country has long borders with neighbouring countries, especially with non-NATO states, its government should spend even more than 2% of its GDP on defence, as longer borders require more equipment and personnel to defend them. What is more, distance to the enemy is important, as conflicts may well quickly delocalize to another country due to artillery, aerial combat, and ballistic missiles. The size of population also has an impact on the army, since more populous countries need more soldiers able to provide defence. Country-specific factors suggest that military spending should be even higher than DSR for states that are adjacent to non-NATO countries and are densely populated.

The strategic area also refers to the determinants connected with the changes observed in the army of a potential rival (factors 6 to 8, Table 1). These were of particular importance in the time of the Cold War (1945–1991), but today however, Russian aggression threatens not only Ukraine, but also the principles of the democratic world. In this sense, as the current war might be dividing the world into two blocks again, those factors cannot

be neglected, especially technological developments in armaments, which can assure ground-breaking tactical capabilities on the battlefield. For this reason, NATO urged its allies to spend at least 20% of their defence budgets on military equipment (North Atlantic Council 2014).

Taking into account determinants from the strategic area, the Russian military threat and equal burden sharing within NATO alliance have recently gained prominence. That is why they may have a considerable influence on budgetary decisions regarding military spending.

### 3. Military spending across European NATO members

Military spending across European members has shown a downwards trend since the collapse of the Soviet Union (Topcu and Arras, 2015). In the period under scrutiny (2009–2020), this trend continued to be observable among European allies up until 2014 that is presented by the average defence spending ratio calculated for 21 countries (Figure 1). In 2014, the negative tendency in military spending was reversed, which may have been linked to the perception of insecurity by national communities due to the rising importance of the strategic triggers.

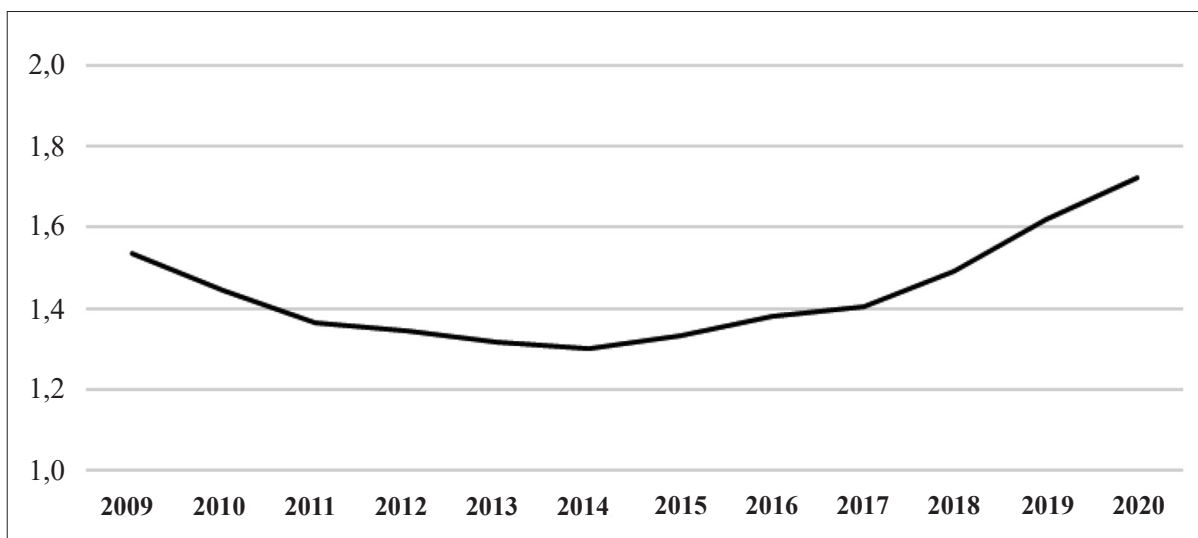


Figure 1. Average Defence Spending Ratio (% of GDP; 2009-2020)

Source: Own calculations for 21 EU countries from NATO alliance, data from SIPRI Statistics.

Applying Spearman's rank correlation test we examined whether a perception of national insecurity, measured by Global Peace Index (GPI), was correlated with military spending (MS; % of GDP). GPI index quantifies board measure of insecurity in the selected country. 60% of final value is connected with internal peace whereas 40% relates to the external peace. The higher value of GPI, the higher level of national insecurity (Institute for Economic and Peace, 2011). We were interested in knowing whether the increase in average military spending (Figure 1) may have been an effect of insecurity connected with Russian invasion of Ukraine. The tests were conducted for individual years in the 2015–2020 range. Only 20 countries were examined for each year because GPI data for Luxembourg was unavailable.

The Spearman's rank correlation coefficient is a method of testing the strength and direction (positive or negative) of the correlation between two variables that do not have a normal distribution. Thus, Spearman's rank correlation test measures non-parametric connections, and can be tailored to small samples having a high variability and outliers (Spearman, 1904). Spearman's correlation coefficient ( $r_s$ ) shows the strength of the monotonic relationship between paired data.

$$-1 \leq r_s \leq 1$$

When  $r_s=0$  there is no relationship between the variables. The closer  $r_s$  is to  $|1|$ , the stronger the monotonic relationship. The strength of the correlation in the absolute values can be defined as weak (below 0.39); moderate ( $0.40 \leq r_s \leq 0.59$ ); strong; ( $0.60 \leq r_s \leq 0.79$ ); and very strong ( $0.80 \leq r_s \leq 1.0$ ). The test can check two hypotheses. The null hypothesis ( $H_0$ ) assumes there is no monotonic correlation between variables; that is, they are not interrelated at all. In contrast, the alternative hypothesis ( $H_1$ ) states that there is a monotonic correlation between variables, and confirms the interrelation between them. We made two important assumptions before we started the procedure. First, the level of importance needs to be lower than 0.05 (p-value). Second, we are interested only in the positive correlation, because we presumed that growing insecurity (higher GPI) causes higher military spending.

The results obtained clearly refute  $H_0$  and support  $H_1$ . Accordingly, the data confirms a positive correlation between military spending and the GPI, as seen in Table 2.

**Table 2.** Results of Spearman’s Rank Correlation (2015-2020)

Statistics \ Year	2015	2016	2017	2018	2019	2020
Coefficient	0.48	0.57	0.71	0.69	0.58	0.56
T-statistics	2.34	3.00	4.28	4.12	3.04	2.94
P-value	0.03**	0.00***	0.00***	0.00***	0.00***	0.00***

Source: Own calculations.

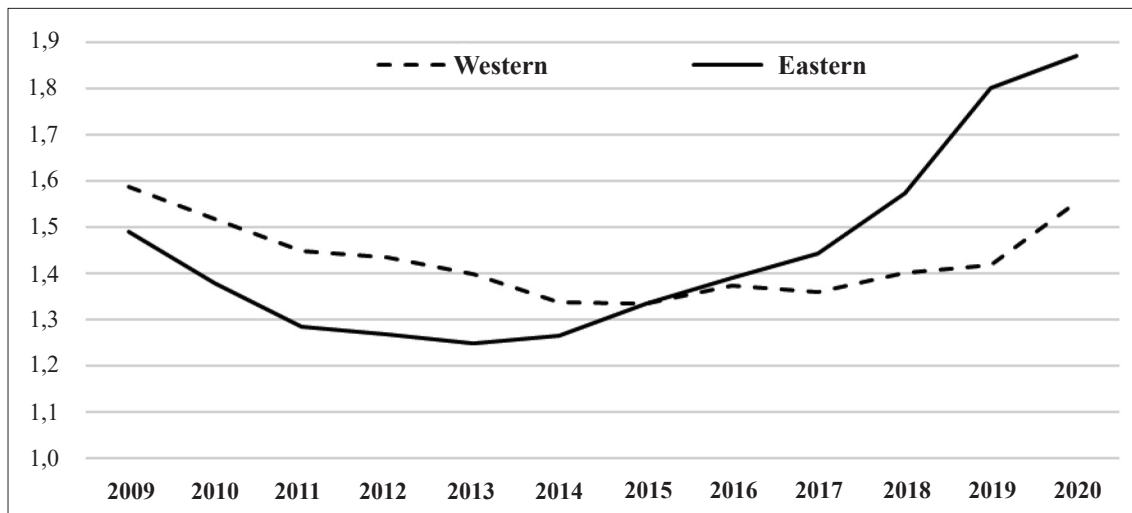
The values of coefficient ( $r_s$ ) show a positive correlation for all years under scrutiny. Meanwhile, the absolute value of  $r_s$  provides information about the power of correlation, which is strong every year. A positive verification throughout the period of interest raised suspicions as to the reliability of the results, so we added a few years to check the behaviour of the variables. However, the years before 2014 did not confirm any correlation. The Spearman test gave the following results: 0.38, 1.76, 0.09\* for 2014; 0.24, 1.11, 0.28 for 2013; and 1.19, 0.83, 0.41 for 2012. Based on this additional verification, we noticed that the correlation had gradually increased from 2014, but gained statistical importance from 2015. In short, the additional tests confirmed our original outcome.

Referring to the role of geographical factors (borders and location), we divided all the countries considered in this study into two groups, Western and Eastern. Such a distinction seems to be useful for two reasons. First, Eastern countries have a long history in connection with Russia, several are geographically closer to Russia than Western allies, and some of them even share borders with Russia. Second, the literature on free-riding within the NATO alliance accentuates that this practice is usually seen in poorer allies, and the group of Eastern states are less wealthy economies.

Western allies represent 10 countries from Western and Southern Europe that were co-founders of NATO and the European Union (including Belgium, Denmark, the Netherlands, France, Luxembourg, Portugal, and Italy). This also applies to Greece, Germany, and Spain – three countries that joined NATO before the mid-1980s. The Eastern allies, in turn, were either Soviet republics during the Cold War (Estonia, Latvia, and Lithuania), or Soviet satellite countries which were highly dependent on Soviet Union up until 1991: Poland, Romania, Bulgaria, Hungary, Czechia and Slovakia (Czechoslovakia), as well as Slovenia and Croatia (Yugoslavia).

Drawing on Figure 2, we can see that the average defence spending in both groups of allies were not fully consistent with one another. Both showed decreasing trends up until 2013. In 2014, Eastern states noted a slight increase in military spending, while Western countries experienced minor growth, with a slight lag, in 2016. What is more, both average trends are below 2% of GDP, since the majority of countries in each group were far from spending DSR, even after 2014.





**Figure 2.** Average defence spending by Western and Eastern Allies (in % of GDP; 2009-2020)

*Source:* Own calculations on the basis of SIPRI Statistics.

Regarding the discrepancy between average military spending in both groups of countries after 2014, we were interested in whether Western and Eastern countries reacted to national insecurity (as evidenced by the GPI) in the same way. As previous tests, treating all European countries as a whole, confirmed a correlation between military spending and GDI, we decided to repeat Spearman’s rank correlation procedure for both groups of countries separately (all test assumptions are the same as previously). Having only 9 observations for each year in the case of Western countries, we repeated the values for one country in order to have a sufficient number of observations. We doubled the series for the Netherlands, as we recognized this country as being in the middle among Western countries in terms of annual spending on defence. The results are shown in Table 3.

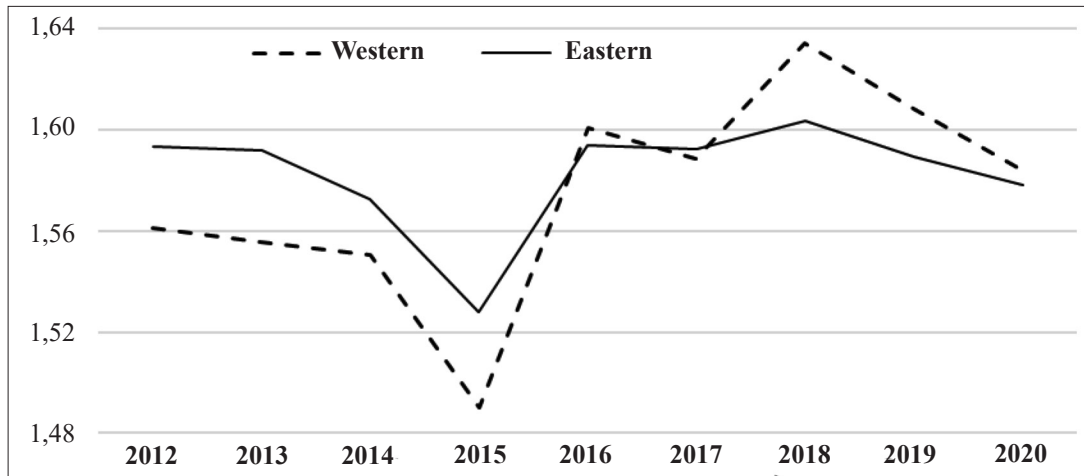
**Table 3.** Results of Spearman’s Rank Correlation for Western and Eastern NATO European countries (2015–2020)

Statistics	Year		2015		2016		2017		2018		2019		2020	
	West	East	West	East	West	East	West	East	West	East	West	East	West	East
Countries	West	East	West	East	West	East	West	East	West	East	West	East	West	East
Coefficient	0.68	0.34	0.43	0.67	0.57	0.87	0.46	0.87	0.31	0.78	0.37	0.74	0.37	0.74
T-statistics	2.47	1.10	1.27	2.77	1.87	4.13	1.39	5.36	0.88	3.76	1.05	3.26	1.05	3.26
P-value	0.04**	0.29	0.24	0.02**	0.11	0.00***	0.20	0.00***	0.40	0.00***	0.33	0.00***	0.33	0.00***

*Source:* Own calculations.

The correlation between GPI and military spending was proved for Eastern countries from 2016 onwards. This tendency gained momentum from 2017 onwards, as is confirmed by the value of the coefficient being clearly above 0.7. In 2014, only Western countries had correlated spending with insecurity, while at the same time they had a higher average level of spending on defence than their Eastern allies. Conversely, in the following years (2015–2020), no correlation between GPI and military spending was seen among richer European countries.

The average GPI trends for both groups offer more insight into the problem (Figure 3). The higher the GPI value, the lower the national security. A clear decline in national security for both groups of countries was recorded in 2015. After that time, Western states experienced a deeper decline in national security, but this situation did not result in an increase in military spending. Apparently, non-strategic motives played a key role in economic policy. In consequence, the divergence in national spending trajectories may result from political calculations and budgetary constraints (Haesebrouck, 2022).



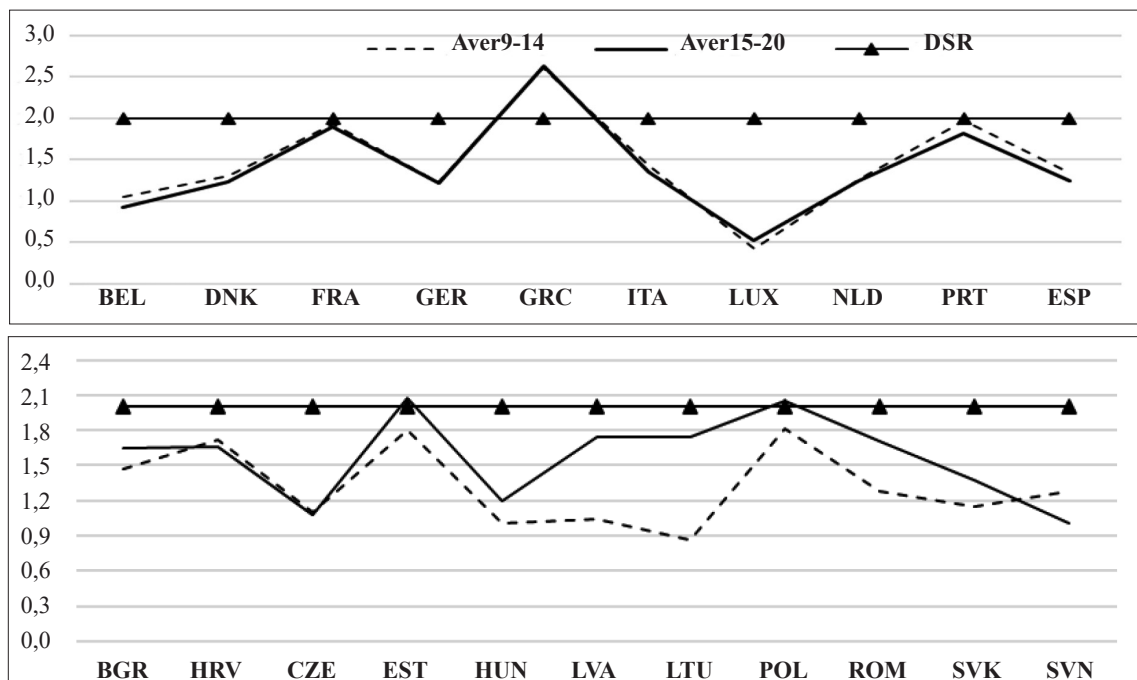
**Figure 3.** Average trends in GPI for Western and Eastern Allies (2012-2020)

*Source:* Own calculations on the basis of Statistics of Institute for Economic and Peace.

Finally, the feeling of insecurity expressed by GPI was correlated with military spending after 2014 in the case of Eastern allies. That proved that strategic factors have impacted European budgetary decisions on military spending after the Russian invasion of Crimea. So, the European average (Figure 1) was primarily driven by the financial efforts of Eastern countries.

#### 4. Western vs. Eastern Countries – comparison

Making more detailed analysis, we concentrated on individual allies' response. Dividing the whole period of analysis into two sub-periods (2009-2014 and 2015-2020) we tried to present the distinct reaction of two groups national states to the Russian threat (Figure 4). Military spending in Western countries followed a similar trajectory for both sub-periods. The only visible difference was a decrease in Portuguese spending after 2014. We can see a limited reaction of Western countries in the later period, although they generally did not meet the DSR benchmark in the first period. In contrast, Eastern states have clearly changed their attitude to strategic factors.



**Figure 4.** Average National changes for both groups in sub-periods (in % of GDP for 2009-2020)

*Source:* Own calculations on the basis of SIPRI Statistics (2012-2020).

Comparing the two sub-periods, only Slovenia and Croatia had lower average outlays in the post-2014 period, while all other countries have increased their military spending, as is clearly evidenced by the data in Table 4. As elaborated above, the period after 2014 is of special importance due to the power of strategic motives after the Wales Summit. For this reason, we looked at the characteristics of trends in particular countries after 2014, as contrasted with the trends for the whole period under scrutiny (2009–2020).

In general, we can notice that mean values (Table 4) are below 2% of GDP (DSR) for the majority of allies. The status of free-rider can definitely not be ascribed to Greece, however, Greeks' feeling of insecurity is mostly connected with Turkey, not Russia. Among the Western countries, France and Portugal were, on average, relatively close to meeting the DSR over the whole period, as well as Estonia and Poland, among the Eastern states. After 2015, the situation across Western countries did not change. In Eastern states however, Poland and Estonia met the DSR, while Latvia, Lithuania and Romania showed spending above 1.7% of GDP. Seven out of 10 Western economies, and 4 out of 11 Eastern economies were far from meeting the obligation after 2014 (DSR below 1.6% of GDP). Finally, 18 allies deserve to be labelled as free-riders (half from Western, and half from Eastern Europe).

Drawing on the countries with geographical location close to the terrain of potential conflict after 2014, and having direct borders with Russia or Ukraine, we noticed that military spending escalated in Estonia, Latvia, Lithuania, Poland, Slovakia, and Romania against the average in years 2009–2020. From the group of Eastern states, the big efforts were made by Baltic States (Dudzevičiūtė et al. 2018) whereas Hungary did record the lowest increase in military spending.

**Table 4.** Descriptive statistics of Defence Spending Ratio (in % of GDP) for Western and Eastern Countries (2009–2020 vs. 2015–2020)

Statistics		Country										
		BEL	DNK	FRA	GER	GRC	ITA	LUX	NLD	PRT	ESP	
Mean	All period	0.99	1.26	1.91	1.22	2.62	1.40	0.47	1.25	1.89	1.29	
	After 2014	0.92	1.23	1.90	1.21	2.63	1.35	0.52	1.25	1.82	1.25	
Median	All period	0.99	1.29	1.88	1.20	2.57	1.38	0.43	1.23	1.90	1.27	
	After 2014	0.89	1.21	1.89	1.16	2.62	1.35	0.53	1.19	1.78	1.24	
Standard deviation	All period	0.09	0.11	0.08	0.08	0.24	0.11	0.08	0.11	0.13	0.08	
	After 2014	0.06	0.12	0.06	0.10	0.12	0.11	0.08	0.13	0.11	0.07	
Skewness	All period	0.41	-0.23	1.47	1.00	1.43	-0.05	0.72	0.85	-0.11	-0.13	
	After 2014	2.35	0.44	1.14	1.58	0.19	0.81	-0.14	1.35	0.75	0.11	
Statistics		Country										
		BRG	HRV	CZE	EST	HUN	LVA	LTU	POL	ROM	SVK	SVN
Mean	All period	1.56	1.69	1.09	1.94	1.10	1.39	1.30	1.93	1.50	1.26	1.14
	After 2014	1.64	1.66	1.08	2.08	1.19	1.74	1.74	2.05	1.71	1.37	1.00
Median	All period	1.39	1.68	1.07	1.96	1.03	1.23	1.11	1.90	1.38	1.12	1.05
	After 2014	1.35	1.63	1.04	2.02	1.07	1.81	1.84	2.01	1.76	1.17	0.99
Standard deviation	All period	0.53	0.09	0.13	0.19	0.26	0.49	0.53	0.16	0.28	0.31	0.23
	After 2014	0.75	0.09	0.15	0.14	0.35	0.46	0.38	0.15	0.24	0.37	0.05
Skewness	All period	2.90	0.05	0.79	0.61	2.54	0.73	0.51	1.23	0.88	1.41	1.41
	After 2014	2.29	0.52	1.08	2.38	1.86	-0.54	-0.81	0.98	-0.19	1.09	-0.05

Source: Own calculations on the basis of SIPRI Statistics.

The scale of instability in military spending (standard deviation, Table 4) provides information about unexpectedly high or low spending, irrespective of expenditures in previous or following years. We can see that Western countries present low degree of instability in defence spending on the longer and shorter terms. The highest instability is noted for Greece, which value dropped from 0.24 (2009–2020) to 0.12 (2015–2020). Eastern countries had a higher instability of military spending in both periods. The most unstable spending was present



in Bulgaria, Lithuania, Latvia, Slovakia, and Hungary, which can be explained by an uneven growth in spending over recent years.

Positives skewness suggests right-scale distribution. The model is Eastern countries for the whole period (Table 4). Because the median is 1.39 for Bulgaria, that implies that 50% of observations are lower than this value. At the same time, the mean amounts to 1.56, which shows that the other values must be markedly higher so as to cause the mean to diverge so far from the median. In consequence, many countries have annual spending on defence that is clearly greater than the mean value. Skewness for Western allies is positive in 6 out of 10 countries for the whole period, and for 9 out of 10 countries in the post-2014 period. When it comes to Eastern states, skewness is above zero for all countries in the whole period, and for 7 allies in the time between 2015 and 2020. The higher differences between mean and median are generally observed for Eastern countries that have a lot in common in terms of a greater level of instability in military spending.

In summary, the average military spending of Western European allies did not rise after 2014, whereas Eastern European allies noted a considerable increase at this time. Significant growth was observable across countries located near Russia and Ukraine. Typically, rising military spending was accompanied by greater instability.

## **5. Discussion: military spending and free-riding in the face of a strategic threat**

The strategic threat to Europe rose along with the Russian invasion of Ukrainian territory in 2014. NATO countries, including all European allies, aware of the threat posed by Russia, pledged to spend 2% of their GDPs on national defence, and thus agreed at the Wales Summit to assume a more balanced share of the alliance's obligations. The pledge to spend more on defence was more important than ever before because the European region was threatened. One might have thought that European allies could not have a better motivation for fair burden-sharing. Although the European countries announced a new approach to defence spending in 2014, our piece examines whether the above-described strategic factors have really changed national trends and diminished the number of free-riders among European allies. Unfortunately, our results suggest that the scale of national spending on defence is not only dependent on strategic factors (like obligations within the alliance), but also on socioeconomic and political factors. Because of that, real changes in military spending only happened in part of the examined countries, mostly Eastern NATO economies.

These findings are in line with Mattelaer (2016) who suggests that allies exposed to security threats are more interested than other allies in strengthening their local defence. It does not depend directly on measures at the national level, such as the GPI, but rather on the susceptibility of decision-makers to respond to strategic threats, regardless of the pace at which these increase. Even Haesebrouck (2022) argues that some governments made immediate budgetary efforts inadequate to the scale of real threat because of non-strategic factors. We, in turn, noticed that feeling of security in Western countries was, on average, lower than in Eastern countries after 2015, while a positive correlation between a decline in national security and an increase in military spending was confirmed only in Eastern countries.

Our empirical verification confirmed that there was only a correlation between insecurity and military spending in Eastern countries after 2015. Eastern European allies have reacted positively to the strategic threat due to their geographical location and their borders with Ukraine and Russia. It is worth saying that higher military spending in Eastern countries was accompanied with a higher instability. In contrast, public spending in Western countries was more stable and predictable, however, the scale of military expenditure (against GDP) did not react to strategic dangers. That was confirmed by Spearman's rank correlation test after 2015.

The most striking fact is that the Russian invasion of Donbas and the common declaration at the NATO Wales Summit did not cause Western allies to improve their defence spending ratios in the period between 2015 and 2020. This situation poses a problem for the US because free-riding was more noticeable among wealthy European allies. As George and Sandler (2021) clearly argue, Western countries have not changed their attitude towards military spending despite Russian aggression in Ukraine. This, in fact, may explain why low national

security has so far not resulted in rich countries significant increasing their military spending.

The theory of burden-sharing assumes that poorer states tend to exploit richer countries in financing collective defence (e.g. Sandler and Hartley, 2001; George and Sandler, 2018). However, our results suggest that Eastern states were more committed than Western countries to paying their fair share in recent years. Finally, it is safe to say that the transatlantic disagreement in this respect was largely driven by wealthy allies during a period of strategic threat to Europe.

## Conclusions

Several strategic factors affect the level of military spending in the modern economy. At least two of them have gained prominence in the recent years. First, the big chance of the war between NATO and Russia. Second, the financial pledge of all NATO allies to spend more on collective defence in the face of Russia's behaviour. Those factors, however, impacted military spending only in the part of examined countries according to the results obtained.

Our research confirms that most European allies have still not met defence spending targets and are thus shirking their fair share of collective defence obligations. A breakdown of military spending between Western and Eastern allies shows that less wealthy countries were more engaged in raising public expenditures on collective defence than richer ones were. In consequence, the free-riding practice was more visible in Western economies, whose military spending (as a percentage of GDP) did show any significant increase after 2014.

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