Temporal Discontinuity of Defence Investment and Implementation in the Bucharest Nine Countries

Vojtěch MÜLLMER^{1*}, Kamil NEČAS²

¹Department of Applied Social Sciences and Humanitiest, Faculty of Military Leadership, University of Defence, Address: Kounicova 65, Brno, 602 00, Czechia ²Department of Resources Management, Faculty, Faculty of Military Leadership, University of Defence, Address: Kounicova 65, Brno, 602 00, Czechia

Correspondence: *vojtech.mullner@unob.cz

Abstract

This study analyses the timing of acquisitions in B9 countries and shows the time lag that exists between investment and the ability to live up to the technology ordered. Delays in defence acquisitions are observed in the government decision-making and contract execution phases, highlighting the complexity of the procurement process. Despite significant investments, not all countries show an increase in defence capabilities. Acquisition of sophisticated systems appears to be the most time consuming, with significantly greater delays than for simpler systems.

KEY WORDS: acquisitions; military investments; delays; military equipment; defense capability.

Citation: Műllmer, V.; Nečas, K. (2024). Temporal Discontinuity of Defence Investment and Implementation in the Bucharest Nine Countries. In Proceedings of the Challenges to National Defence in Contemporary Geopolitical Situation, Brno, Czech Republic, 11-13 September 2024. ISSN 2538-8959. DOI 10.3849/cndcgs.2024.437.

1. Introduction

The current security situation is one of the main determinants that influence the level of armaments [1], [2]. Although authors define other important economic factors, such as economic growth, the size of the public sector, or the level of debt, security factors are the primary reason for increasing the amount of resources that are spent on increasing defence capabilities [3]. Currently, in the consequences of the past incidents of 2014, when Russia illegally annexed Crimea, and 2022, when it invaded neighbouring Ukraine, there is a massive increase in military spending in an attempt to increase defence capabilities [4]. The increasing spending is related to both increasing the number of personnel in the armed forces and investing in new equipment, which is an important prerequisite for increasing military capabilities. It is the specifics of the process of purchasing new military equipment that can be identified as one of the limits to the increase in defence capabilities, where the increase in the absolute amount of military expenditure, as well as the increase in the volume of investment, is delayed in the increase in defence capabilities. The time lag in the implementation of defence acquisition can be divided into two basic periods. The first period is associated with the government's decision that a given military equipment can be acquired for the armed forces, and then how the purchase will be implemented. Specifically, there is a delay associated with the process of selecting suitable equipment, where time is needed to specify the need, select the best options and sign the contract. Research in the field of public sector investment confirms that delays caused by the selection but also by other administrative processes are more frequent in public investments [5].

The second period is from the signing of the contract until the delivery of the last piece of ordered military equipment. This period is dependent on a number of variables, the technical level and type of military equipment, whether the military equipment is produced in the country or exported, whether the purchase includes the development of the equipment. For military investment spending in more complex military systems, the lag can increase due to the complexity of the production process or limited production capacity. Defence procurement attracts much attention from politicians and academics because large projects are regularly delayed and their costs far exceed initial estimates.

Delay problems are often associated with the introduction of new technologies. Overall, the defense procurement environment is complex, characterized by uncertainty and significant resource constraints resulting from constantly evolving threat perceptions, limited dissemination of information about new technologies, and defense-related spending [6].

Increasing defence capabilities is a trend throughout the North Atlantic Alliance. The Russian Federation is considered one of the biggest threats due to the aggression in Ukraine. This fact increases the importance of NATO's eastern flanks, specifically the states of the so-called eastern wing. The eastern wing states take the name of the Bucharest Nine (B9), which includes Bulgaria, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania and Slovakia. This grouping was formally established in November 2015 in Bucharest on the initiative of Romania and Poland. In the following paper, we focus on the problem of the lag effect of defence investments on the defence capabilities of the Bucharest Nine countries. The aim of the paper is to show the time lags of investments on selected projects, which are presented both on specific examples and on aggregated data that are statistically analyzed.

2. Method of Investigation

The research is intended to show the existence of a time lag between the implementation of the investment and its impact on defence capabilities. First, the existence of a relationship between the volume of investment will be investigated and then specific investments in weaponry for the B9 countries will be explored. The statistical analysis will be based on a simple correlation between the volume of investment spending and the Global Military Index (GMI) and then between the volume of investment spending and the Weapons indicator, which is part of the GMI index. The data on investment size for each country comes from the Military Balance+ database, which contains this information for each country and which is based on published data from NATO. The GMI is an established index that quantifies the size of each country's military strength. The GMI score is the sum of the scores from the subcategories evaluated, which are military spending, military personnel, and military equipment. Since the indicator already includes the category of military expenditure, of which investments are a part, the existence of the relationship may be partially distorted. Nevertheless, for us the presence of the other categories is important and due to the fact that military spending in the total GMI score is only one third, we will ignore this fact. Since our primary focus is on military equipment, we will focus separately on the relationship between military investment and the weapons indicator, which is part of the overall GMI score. The weapons indicator is based on data from the Military Balance+ database.

This indicator rates the number of pieces of equipment in each category and their firepower. A limitation of this indicator is that it does not reflect the age and quality/modernity of the equipment. Despite this limitation, we look at the relationship between investment and the change in the weapons indicator. In the context of time lags, which we want to address first, we will examine the relationship between the indicators and the current value of the index. We will then look at the relationship between investment and the indices with a three-year lag and then a five-year lag. In order to illustrate the lag in equipment investment, investment purchases will be presented for each B9 country, by focusing on the time horizon of the entire process from the signing of the purchase to the delivery of the last piece of equipment. Information on each procurement and its process is drawn from the closed Military Balance+ database.

3. The Relationship Between Investment and Defence

The trend in the volume of military investment for each of the B9 countries is shown in Figure 1. This figure shows the growth in the volume of investment after 2014 for all countries except Hungary. In 2019, we find a significant positive fluctuation in investment volume for Romania.



Fig. 1 Military investment 2004-2022 (USD million)

Source: own, data from database Military Balance+ (2024) and GMI index

This fluctuation is due to a large acquisition, which was a unique one-off and for which public budgets were particularly allocated. The importance of investment is both in maintaining existing capabilities and in acquiring new capabilities, respectively greater strength. Figure 2 shows the value of the GMI from 2004 to 2022. Apart from the significant reduction in the value of the GMI for Bulgaria from 2004 to 2012, we do not observe significant fluctuations in the value of this index, despite the fact that, as we have shown earlier, the volume of investment funds has been increasing in recent years.



Fig. 2 Global Military Index (GMI) score 2004-2022 Source: own, data from database Military Balance+ (2024) and GMI index

Figure 3 shows the change of the weapon indicator from 2004 to 2022. As with the GMI, we can observe a downward trend in this category for Bulgaria since 2004. On the other hand, in terms of arms strength, Latvia is becoming stronger. However, as we have already mentioned, there may be a time lag over time which we will focus on based on the existence of a statistical relationship.



Fig. 3 Weapon indicator score 2004-2022

Source: own, data from database Military Balance+ (2024) and GMI index

Table 1 illustrates for each of the B9 countries the relationship between the GMI index value and the volume of investment. The relationships are observed both with no time lag, a time lag of three years and a time lag of five years. From the observed values, we cannot draw a generally valid relationship for all countries under study. However, we can note that there is a group of three countries, namely Poland, Romania and Slovakia, for which the change in the volume of investment in defence capabilities is not observed either right away or with any time lag. This raises the question of the effectiveness of the resources spent, or the fact that old equipment has been completely phased out in large numbers and new equipment has not yet been put into service. In contrast, a significant relationship between the volume of investment and the GMI index can

be observed for the Czechia, Estonia, Hungary and Lithuania. The lag does not appear to be significant in relation to the GMI index, but since we focus on investment and defence capability, Table 2 will be more helpful from this perspective.

Relationship without time delayRelationship with a time delay of 3 yearsRelationship with a delay of 5 yearsBulgaria0,02-0,010,43Czechia0,510,760,57Estonia0,620,580,48Hungaria0,970,760,45Latvia0,89-0,12-0,40Lithuania0,930,800,47Poland0,070,240,19Romania0,310,27-0,19	Correlation coef	ficients between change in investr	nent volume and defence capabi	ilities, represented by the GMI
Bulgaria 0,02 -0,01 0,43 Czechia 0,51 0,76 0,57 Estonia 0,62 0,58 0,48 Hungaria 0,97 0,76 0,45 Latvia 0,89 -0,12 -0,40 Lithuania 0,93 0,80 0,47 Poland 0,07 0,24 0,19 Romania 0,31 0,27 -0,19		Relationship without time	Relationship with a time	Relationship with a delay of
Czechia0,510,760,57Estonia0,620,580,48Hungaria0,970,760,45Latvia0,89-0,12-0,40Lithuania0,930,800,47Poland0,070,240,19Romania0,310,27-0,19		delay	delay of 3 years	5 years
Estonia 0,62 0,58 0,48 Hungaria 0,97 0,76 0,45 Latvia 0,89 -0,12 -0,40 Lithuania 0,93 0,80 0,47 Poland 0,07 0,24 0,19 Romania 0,31 0,27 -0,19	Bulgaria	0,02	-0,01	0,43
Hungaria 0,97 0,76 0,45 Latvia 0,89 -0,12 -0,40 Lithuania 0,93 0,80 0,47 Poland 0,07 0,24 0,19 Romania 0,31 0,27 -0,19	Czechia	0,51	0,76	0,57
Latvia 0,89 -0,12 -0,40 Lithuania 0,93 0,80 0,47 Poland 0,07 0,24 0,19 Romania 0,31 0,27 -0,19	Estonia	0,62	0,58	0,48
Lithuania 0,93 0,80 0,47 Poland 0,07 0,24 0,19 Romania 0,31 0,27 -0,19	Hungaria	0,97	0,76	0,45
Poland 0,07 0,24 0,19 Romania 0,31 0,27 -0,19	Latvia	0,89	-0,12	-0,40
Romania 0,31 0,27 -0,19	Lithuania	0,93	0,80	0,47
	Poland	0,07	0,24	0,19
Slovakia -0.01 0.17 0.19	Romania	0,31	0,27	-0,19
0,17	Slovakia	-0,01	0,17	0,19

Table 1.

Source: own, data from database Military Balance+ (2024) and GMI index

Table 2.

Correlation coefficients between change in investment and defence capability as represented by the Weapons Indicator

	Relationship without time delay	Relationship with a time delay of 3 years	Relationship with a delay of 5 years
Bulgaria	-0,05	0,05	0,26
Czechia	0,46	0,76	0,59
Estonia	0,54	0,57	0,43
Hungaria	1,00	0,82	0,58
Latvia	0,89	0,10	-0,38
Lithuania	0,76	0,77	0,48
Poland	-0,14	-0,14	-0,33
Romania	0,10	-0,17	-0,26
Slovakia	-0,37	-0,12	0,16

Source: own, data from database Military Balance+ (2024) and GMI index

In Table 2 we see once again that for Poland, Romania and Slovakia changes in investment are not reflected in the strength of arms. Thus, it is likely that they are only upgrading existing old equipment but not developing new capabilities. A significant relationship between investment and weapon indicator with a three-year lag is evident for the Czechia, Estonia, Hungary and Lithuania. Consequently, for almost half of the B9 countries, spending on weapons is only delayed in terms of defence capabilities. The existence of a relationship is only a partial confirmation of the existence of a lag. To better illustrate the problem, in the next section we present specific acquisitions including their timeframe.

4. Case Studies on Time Lags in Selected Acquisitions in B9 Countries

Defence acquisitions in general attract a lot of attention from politicians and academics as well as the general public, one of the reasons being the long time delays in their implementation and the increase in costs beyond initial estimates. The field of defence procurement is very complex, dependent on the security environment and the political situation, which is linked to the unpredictability of budgets in peacetime, military technologies and equipment are largely not commercially available and are developed according to the current customer requirement, which is linked to long time delays for complex technological solutions. It was mentioned in the introduction of the article that the time lag in the implementation of defence acquisitions can be viewed in two dimensions.

The first period is "pre-acquisition" and is related to certain political decisions about how and when we will meet the needs of the armed forces; there is also a choice of what form, e.g., in the Czech Republic, G2G cooperation has been used recently in major acquisitions. There can be many years of delay in this 'pre-acquisition' phase.

The second period/phase is characterised by the period from the signing of the contract to its completion. This period is dependent on a number of variables, mainly the technical level of the equipment supplied (whether it includes development) and the type of military equipment, it is also important whether the equipment in demand is produced in-country, and last but not least, it is largely influenced by the current security situation, with manufacturers operating in peacetime mode, i.e. manufacturers do not hold large stocks of raw materials, components and finished products [7].

An overview of selected acquisitions for the B9 countries with their timing will follow in the text. For each B9 member, their current political and security approach to acquisitions is first discussed; in the wake of the Russian invasion of Ukraine, the vast majority of members have reassessed their strategic security documents, long-term acquisition plans, and related acquisitions. The tables focus on the period/stage from the signing of the contact to the scheduled delivery of the last item (also graphically), showing both domestic and export acquisitions. It is clear from the data that the more sophisticated the system, the longer it takes to deliver; for aerospace systems, this can be more than 10 years.

4.1. Bulgaria

Bulgaria joined NATO in 2004, three years before it acceded to the European Union (EU). As early as 2021, the country is focusing on rearmament and modernisation of existing equipment, and further focusing on artificial intelligence and cyber capabilities. A new *National Defence Strategy* for the Republic of Bulgaria was published in autumn 2023. The time horizon of the strategy is "until 2033", leaving the possibility to be updated according to changes in the security environment. The document stresses that Bulgaria's defence is only possible within the framework of NATO's collective defence and the European Union's Common Security and Defence Policy, it follows that the fulfilment of allied commitments is crucial for the country's defence. The document also states that Russia is the greatest threat to the country's national security, regardless of the outcome of the war in Ukraine [8]. Currently, Bulgaria's airspace is protected by the NATO Air Policing Mission due to the limited number of fighter aircraft in the country, with new F-16 Block 70/72 aircraft replacing the outdated MIG-29s. The progress of this acquisition is shown in table 3, along with other selected acquisitions that focus on the integration of new technologies and a higher level of interoperability (transition to Western technology).

				(Overv	view	of se	lecte	ed acq	uisit	ions i	n Bu	Igaria	a						Tac	JIC J.
Classification		Des	ignat	tion		0	rigin Qty		Orde Date	-	Firs Oelive	-	Con Com	ntrac pleti	-		riod lizati (Y)			coun oduct	
FGA	F-16 C	C/D E	Block	70/7	2		8		2019)	2025	5	2	027			9			No	
FSGHM	MMP	V 90					2		2020)	2025	5	2	027			8			Yes	
МНО	Alkma	ar					2		2019)	2020)	2	020			2			Yes	
											Ye	ear									
Designatio	n	2015 2016 2017 2018				2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
F-16 C/D Block	70/72																				
MMPK corvette	s																				
Alkmaar																					

Source: own processing, data from database Military Balance+ (2024)

Legend:

Order date From first delivery to contract completion Order date and first delivery same year Not classified end of contract

4.2. Czechia

Czechia has been a member of NATO since 1999 and a member of the EU since 2024. In the long term, Russia will pose the most serious security threat to Czechia and its allies. The war in Ukraine has confirmed the absolute necessity of our active membership in NATO. The priority task for the armed forces is therefore to build a well-armed, equipped, trained and combat-sustainable force deployable in collective defence operations. The defence and security industry is one of the pillars of defence, particularly in ensuring security of supply and combat sustainability of the armed forces [9]. The Armed Forces, of which the Army of the Czech Republic is the main fighting force, are built on an all-military principle and with an emphasis on a combination of technological maturity and robustness. The main objective of the acquisitions is to acquire modern combat systems, including unmanned systems, and to have the ability to operate with precision-guided munitions at long range. The acquisition effort is presented in Table 4.

Table 3.

Classification		Des	ignat	tion		0	rigin Qty		Orde Date		Firs Delive	-	Con Com	ntrac pleti	-		riod lizat (Y)			-cour oduct	•
IFV		С	V903	30			246		2023		2026	5	2	030			8			Partl	у
AH		AH-	1Z V	⁷ iper			4		2019		2023	3	2	024			6			No	
LTH	τ	UH-1	YV	enom	ı		8		2019)	2023	3	2	024			6			No	
155mm SPH		CI	EASA	٨R			52		2021		2024	1	2	026			5			Partl	у
AUV		TITUS F-35A Lightning II					62		2019)	2022	2	2	023			5			Partl	у
FGA	FGA F-35A Lightning II						24		2024		203	1	2	034			11			No	
				2017	2018	2019	2020	2021	2022	2023	2024	ar 502	2026	2027	2028	2029	2030	2031	2032	2033	2034
CV9030									1												
AH-1Z Viper																					
UH-1Y Venom	· · · · · · · · · · · · · · · · · · ·																				
CEASAR																					
TITUS																					
F-35A Lightning I	Ι																				

Overview of selected acquisitions in Czechia

Source: own processing, data from database Military Balance+ (2024)

4.3. Estonia

Estonia has a small active armed force and has relied on NATO membership as a security guarantee since 2004. Russia has long been Tallinn's main security concern; as a result of the Russian invasion of Ukraine, it has increased defence spending and transferred large amounts of military equipment to Ukraine. The current National Defence Development Plan for 2031, adopted in December 2021, focuses on improving territorial defence and increasing capabilities such as anti-tank defence, strengthening naval and surveillance systems [10]. Estonia is acquiring missile artillery systems from the US, medium-range air defence systems with Latvia and air defence systems with Poland. It has also joined the German-led European Sky Shield initiative, which aims to strengthen air defence capabilities across the region. Upgrade spending is also intended to improve infrastructure and readiness, see Table 5 for an overview of selected acquisitions.

Table 5.

					Overv	view	of se	lect	ed acc	quisi	tions	in E	stonia								
Classification		Des	igna	tion		0	rigin: Qty	al	Orde Date		Firs Delive	-	Con Com	ntrac pleti	-		riod lizat (Y)			-coun oduct	
155mm SPH	K-9 h	owitz	zer				12		2018	3	2020)	2	023			6			No	
PBF	Patrol	19 V	VP SA	AR			3		2022	2	2023	3	2	023			2			Yes	
MANPADS	Mistra	ıl 3					n.k		2018	3	2020)	2	020			3			No	
227mm MRL	M142	HIM	IARS	•			6		2022	2	2024	ł	1	n.k		١	více 3	;		No	
APC	Arma						n.k		2023	;	2024	ł	2	025			3			No	
MANPADS	Piorur	ı					100		2022	2	2023	3	2	025			4			No	
											Ye	ar									
Designatio	n	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
K-9 howitzer																					
Patrol 19 WP SA	٩R																				
Mistral 3																					
M142 HIMARS	1142 HIMARS																				
Arma																					
Piorun																					
	1 .			1 1																	

Overview of selected acquisitions in Estonia

Source: own processing, data from database Military Balance+ (2024)

4.4. Hungary

Hungary has been a NATO member since 1999 and a member since 2004. Hungary has long had a different stance on the war in Ukraine from that of the EU; the country's leadership, headed by Orbán, is pro-Russian, hence the different views on security and foreign policy objectives. Hungary's security strategy notes that the security environment is deteriorating, but also characterises mass migration as a key problem for Hungary [11]. On the other hand, the Hungarian defence forces are being modernised, with purchases of NASAMS air defence systems and PzH 2000 artillery, for example. Modernisations are focused on Western equipment to ensure cooperation within NATO and the EU. An overview of selected acquisitions is given in Table 6.

Table 6.

				(Overv	view	of se	lecte	d acq	uisit	ions i	n Hư	ingary	7						Tat	ole 6.
Classification		Des	ignat	tion		0	rigin Qty	al	Orde Date		Firs Delive	-	Con Com	ntrac pleti	-	-	eriod lizati (Y)	-		coun duct	-
IFV	KF41	Lynx	ĸ				209		2020)	2022	2	2	027			8			Yes	
Medium TPTA	KC-39	90 M	illenr	nium			2		2020)	2023	3	2	024			5			No	
MBT	Leopa	rd 2A	47+ (2A7I	HU)		44		2018	3	2023	3	2	025			8			No	
MR SAM	NASA	eopard 2A7+ (2A7HU) ASAMS III					26		2020)	2023	3	2	023			4			No	
											Ye	ear									
Designatio	ion 2015 2015 2017 2018			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	
KF41 Lynx																					
KC-390 Millenn	ium	n																			
Leopard 2A7+ (2A7HU)																					
NASAMS III																					

Source: own processing, data from database Military Balance+ (2024)

4.5. Latvia

Latvia has been a NATO member since 2024 and, like the other Baltic States, relies on the security guarantees that NATO membership brings. Russia is Latvia's primary security concern and following Russia's invasion of Ukraine, Latvia has increased its defence spending. Since 2023, a new National Security Concept has been in force, which focuses on and emphasises societal resilience, comprehensive defence and the importance of border protection. Furthermore, Latvia plans to significantly increase the size of its armed forces. Latvia has recently increased its artillery capability with used howitzers from Austria and is acquiring medium-range air defence together with Estonia, see Table 7 for an overview of other acquisitions.

Overview of selected acquisitions in Latvia

Classification		Des	ignat	tion		0	rigin Qty	al	Orde Date		Firs Delive	-	Con Com	ntrac pleti	-		riod lizati (Y)			-coun oduct	•
IFV	Patria	6x6 ((XA-	300)			200		2021		2021	l	2	029			9			No	
МНО	Imanta	a					3		2020)	2021	l	2	024			5			No	
155mm SPH	M109.	A5Ö	E				147		2017	r	2017	7	2	018			2			No	
ARV	FV107 Scimitar						74		2019	1	2020)	:	n.k		c	over 2	2		No	
											Ye	ear									
Designation		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Patria 6x6 (XA-	300)																				
Imanta	· · · · · · · · · · · · · · · · · · ·																				
M109A5ÖE																					
FV107 Scimitar																					

Source: own processing, data from database Military Balance+ (2024)

4.6. Lithuania

Lithuania has been a member of NATO since 2004 and, like the other Baltic states, relies on its NATO membership. In 2021, the country adopted a new national security strategy that reflects the deteriorating security environment in the region – Russia is the country's dominant security concern. In response to Russia's attack on Ukraine, Lithuania is increasing defense spending, and revising the parliament's 2018 10-year program for the development of the national defense system. At the same time, Vilnius wants to improve preparedness and reform the mobilization system, so the government has raised the upper limit on the number of conscripts. The government is planning major improvements to its defense infrastructure, and

Table 7.

the country has joined the German-led European Sky Shield. Vilnius is modernising other parts of its defence capacity, notably the purchase of CAESAR artillery systems, see Table 8 for further developments. In early 2023, the head of the armed forces announced plans to transform a mechanised infantry battalion into a tank battalion [12].

Table 8.

				(Dverv	iew	of sel	lecte	d acq	uisit	ions i	n Lit	huani	a						Tat	51e 8.
Classification		De	signa	tion		(Drigi Qty		Ord Dat	-	Firs Deliv			ntra pleti			eriod lizat (Y)			coun duct	•
AUV	JLTV	r					200)	202	1	202	1	2	2023			3			No	
155mm SPH	CEAS	SAR					18		202	2	202	6	2	2027			6			No	
Medium TPTH	UH-6	0M]	Black	x Hav	vk		4		202	0	202	4	2	2025			6			No	
120 mm Mortar	Expa	120	-MX	2-SN	1		n.k		202	2	202	3	2	2024			3			No	
155mm SPH	PzH 2	PzH 2000							201	5	201	6	2	.019			5			No	
IFV							91		201	6	201	7	2	2024			9			No	
	BOACI (VIIKas)										Ye	ear									
Designation	l	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
JLTV																					
CEASAR																					
UH-60M Black H																					
Expal 120-MX2-	SM																				
PzH 2000																					
Boxer (Vilkas)		1 .		1.		N 6'1'															

Source: own processing, data from database Military Balance+ (2024)

4.7. Poland

Poland has been a member of NATO since 1999, and the main pillars of Polish defence policy include ground defence and NATO membership. The 2017-32 Defence Concept focuses primarily on preparing the armed forces to deter Russian aggression.

Overview of selected acquisitions in Poland

Table 9.

Classification		Desi	gnati	on			[.] igina Qty		Order Date		First elive		Cor Com	itrac pletio	-	rea	riod lizati (Y)			coun oduct	•
155mm SPH	Krab						96		2016		2019		2	024			8]	Partly	y
FGA	F-35A	Light	tning	II			32		2020		2024		2	030			11			No	
MBT	M1A2	SEPv	3 At	orams	5		250		2022		2025		2	026			5			No	
LR SAM	M903 I	Patric	ot				48		2023		2026		2	029			7			No	
MBT	Hyunda	ai Ro	tem l	K2			180		2022		2022		2	025			4			No	
FGA	FA-50	Fight	ing I	Eagle			48		2022		2023		2	028			7			No	
239mm MRL							218		2022		2023		2	027			6			No	
Designation		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024 50	ar 5022	2026	2027	2028	2029	2030	2031	2032	2033	2034
Krab																					
F-35A Lightning	g II																				
M1A2 SEPv3 A	brams																				
M903 Patriot																					
Hyundai Rotem	K2																				
FA-50 Fighting	Eagle																				
K239 Chunmoo																					

Source: own processing, data from database Military Balance+ (2024)

Russia is thus characterised as a direct threat to Poland, a position that is accentuated in the context of a Russian invasion of Ukraine in February 2022. Other important tasks of the Polish armed forces include protecting the border with Belarus. Poland is one of the leading contributors of military assistance to Ukraine within Europe. Warsaw is gradually increasing defence spending and supporting modernisation projects. There are plans to increase the number of personnel to 300,000 by 2035, as well as to establish new divisions. Already in 2019, a technical modernization plan for the period 2021-35 was published; modernization efforts include, for example, the F-35A fighter aircraft; a summary of other acquisitions is provided in Table 9 [13]. Poland continues to work on strengthening its defence industrial base, much of which is now consolidated in the state-owned PGZ holding company.

4.8. Romania

Romania has been a member of NATO since 2004, and the Romanian armed forces are structured to provide territorial defence, support NATO and EU missions. According to the National Defence Strategy 2020-2024, the main security threats include Russia's increased presence in the Black Sea, hybrid warfare, cyber-attacks and terrorism. Bucharest has said it is increasing defence spending to 2.5% of GDP in 2023. The military inventory is largely made up of Soviet-era equipment, which limits its capabilities, so as part of the armed forces transformation programme, updated in 2022, the authorities are seeking to modernise and upgrade the military to NATO standards. In 2023, Romania agreed to purchase F-35 Lightning II fighter jets and Bayraktar TB2 drones from Turkey; see Table 10 for a summary of other acquisitions.

Table 10.

Table 11.

				(Overvi	iew	of sel	lecte	ed acq	lisit	ions i	n Ro	mania	a							
Classification		Des	ignat	tion		0	rigin Qty		Orde Date		Firs Delive	-	Con Com	ntrac pleti	-	-	riod lizati (Y)	-		coun duct	•
227mm MRL	M142	HIM	[ARS				54		2018		2021	1	2	024			6			No	
SAM	M903	Patri	ot PA	AC-3	MSE		28		2017		2020)	2	026			9			No	
FGA	F-16 F	Fighti	ing Fa	alcon			32		2022		2023	3	2	024			3			No	
IFV	Piranh	a V I	IFV				227		2018		2020)		n.k		C	over 3	3		Partly	y
Medium TPTA	C-130H Hercules						2		2022		2023	3	2	023			2			No	
											Ye	ear									
Designatio	n	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
M142 HIMARS																					
M903 Patriot	5																				
F-16 Fighting Fa	16 Fighting Falcon																				
Piranha V IFV																					
C-130H Hercule	S																				

Source: own processing, data from database Military Balance+ (2024)

4.9. Slovakia

Slovakia has been a member of NATO since 2004 and has been working to modernise its armed forces and replace outdated equipment.

				(Overv	iew	of sel	lecte	ed acq	uisit	ions i	n Slo	ovakia	a							
Classification		Des	ignat	tion		0	rigin Qty	al	Orde Date		Firs Delive	-	Con Com	ntrac pleti			riod lizati (Y)			coun oduct	•
IFV	CV903	35					152		2022		2025	5	2	028			7			Partly	y
IFV	Patria	AM	V				76		2022		2023	3	2	027			6			Partly	y
FGAA	F-16 C	C/D E	Block	70			14		2018		2024	1	1	ı.k		С	over 7	7		No	
Medium TPTH							9		2015		2017	7	2	020			6			No	
											Ye	ear									
Designatio	Designation 51			2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
CV9035																					
Patria AMV																					
F-16 C/D Block	70																				
UH-60M Black	Hawk																				

Source: own processing, data from database Military Balance+ (2024)

Bratislava signed a defence cooperation agreement with the US in 2011 and, under the Foreign Military Financing Programme, Slovakia has been allocated funds to help replace some of the military equipment sent to Ukraine after the Russian invasion (Germany supplied, for example, the MBT Leopard 2A4).

Since 2023, there has been a change of political direction in Slovakia (government and president) and an unclear view of the conflict in Ukraine, partly reminiscent of the situation in Hungary. Part of the Slovak defence industrial base is organised within the state-controlled holding DMD Group, including KONSTRUKTA Defence, which produces ground systems. The most anticipated acquisition is the delivery of F-16 C/D Block 70 aircraft, which are expected to arrive this year; other acquisitions are listed in Table 11.

5. Conclusions

An examination of acquisition timelines in the B9 countries shows common trends, particularly in terms of extending the lead time for advanced military systems. Delays in defence acquisitions occur at two distinct times: the government decision-making phase and the contract execution phase until delivery of the ordered military equipment. These delays, which in some cases last several years, underline the complex nature of the defence procurement process.

On the one hand, the research conducted in this paper shows that investment does not always translate into increased defence capabilities. Among the Bucharest Nine countries studied, Poland, Romania and Slovakia do not show any change in the volume of investment. On the other hand, countries such as the Czechia, Estonia, Hungary and Lithuania show a significant change in investment spending only with a three-year delay. Statistically, a comparison of the change in investment volume and the change in defence capability does not support the generally valid claim of a lag.

On the other hand, it is possible to show, using specific examples for each of the Bucharest Nine countries, a delay in the purchase of more complex military equipment. One of the key factors contributing to these delays is the way the defence industry operates, with some manufacturers maintaining a relaxed approach to the supply chain, which limits their ability to produce quickly or increase production volumes. In the wake of the Russian invasion of Ukraine, demand for military equipment has increased rapidly, and the arms industry is trying to respond by moving to 'wartime' production with government support, for example the French company Nexter has increased production of 155mm howitzers to 8 systems per month (it was producing 2 systems per month in 2022).

From the data used in the article on the length of individual military acquisitions, it is clear that in general the most time consuming are the sophisticated systems, these are mainly in the categories of fighter aircraft, battleships, aircraft carriers, submarines, one example for all is the delivery time of the F-35 Lightning II, which is around 10 years, from ordering and until the last unit is delivered.

Acknowledgements

This paper was created within the DZRO FVL – LANDOPS 1/2021 – 12/2026 project, at the University of Defence, Brno, Kounicova 65, 612 00, Czech Republic.

References

- 1. Nordhaus, W. D., Oneal, J. R., and Russett, B. The Effects of the Security Environment on Military Expenditures: Pooled Analyses of 165 Countries, 1950-2000. Cowles Foundation Discussion Paper No. 1707. pp. 1-34, 2009.
- Nordhaus, W., Oneal, J. R., and Russett, B. The Effects of the International Security Environment on National Military Expenditures: A Multicountry Study. International Organization, 2012, Vol. 66 (3), pp. 491–513. doi:10.1017/S0020818312000173
- 3. Odehnal, J., and Neubauer, J. Economic, Security, and Political Determinants of Military Spending in NATO Countries. Defence and Peace Economics, 2020, Vol 31(5), pp. 517–531.
- 4. **SIPRI.** Global military spending surges amid war, rising tensions and insecurity [online] [04/23/2024] available at: https://www.sipri.org/media/press-release/2024/global-military-spending-surges-amid-war-rising-tensions-and-insecurity
- 5. Espinoza, R., Presbitero, A., F. Delays in public investment projects. International Economics, 2022, Vol 172, pp. 297-310.
- 6. **Patil, K. and Bhaduri, S.** Zero-error' versus 'good-enough': towards a 'frugality' narrative for defence procurement policy, Mind and Society, 2020, Vol. 19, pp. 43-59.
- 7. **Hellberg**, R. Swedish public procurement and the defence industry: obstacles and opportunities, Journal of Defense Analytics and Logistics, 2023, Vol. 7 No. 2, pp. 103-137. <u>https://doi.org/10.1108/JDAL-12-2022-0015</u>
- 8. *Tagarev T*. ЛЕКЦИЯ Визия за адаптиране на отбранителната политика към предизвикателствата на новата геостратегическа среда. 2023. Available from: <u>https://www.mod.bg/bg/doc/minister/speeches/20230905_Lekcia.pdf</u>
- 9. *Czech* republic. Ministry of Defence. Obranná strategie ČR. 2023. Available from: https://mocr.army.cz/images/id 40001 50000/46088/obranna strategie- c r 2023 final.pdf

- 10. *Estonia*. Ministry of Defence. National Defence Development Plan 2031. 2021. Available from: https://kaitseministeerium.ee/en/national-defence-development-plan-2031
- 11. *Akgül* Durakçay, F. HUNGARY'S POSITION ON THE RUSSIA-UKRAINE WAR AND ITS IMPLICATIONS FOR COOPERATION IN THE VISEGRAD GROUP. Eurasian Research Journal, 2023, 5(4), 7-26.
- 12. Adamowski, J. Lithuania wants 54 new tanks in tweak to land forces layout. [online]. 2023. [cit. 2024-03-15] Available from: <u>https://www.defensenews.com/global/europe/2023/03/15/lithuania-wants-54-new-tanks-in-tweak-to-land-forces-layout/</u>
- 13. Sierakowski, S. The Strongest Army in Europe? [online]. 2023 [cit. 2024-03-15] Available from: https://dgap.org/de/forschung/publikationen/strongest-army-europe

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of CNDCGS 2024 and/or the editor(s). CNDCGS 2024 and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.