

NATO Defense Spending in 2023: Implications One Year After Russia's Invasion of Ukraine

Florian Dorn, Niklas Potrafke, Marcel Schlepper

Key Messages

- NATO member states agreed at the summit in 2014 to spend, or to move towards spending, 2% of GDP on defense. In 2023, only 11 of 30 countries will reach that goal.
- Since the Russian invasion of Ukraine, the largest increases in defense spending occurred on NATO's Eastern flank.
- Overall defense spending of NATO plus candidate Sweden will top 1.2 trillion euros, or 2.6% of total GDP. However, the high percentage is due to US spending, which accounts for more than two-thirds of the total.
- Without the United States, the combined defense spending of the remaining members would only reach 1.8% of GDP. The shortfall to the 2% target amounts to more than 50bn euros.
- The largest shortfalls in 2023 will be posted (in euros) by Germany (17bn), Canada (14bn), Spain (12bn) and Italy (10bn). The largest surpluses will occur (in euros) in the USA (330bn), Poland (17bn) and the UK (7bn).



EconPol is CESifo's economic policy platform. With key support from the ifo Institute, it seeks to leverage CESifo's globe-spanning network of 1 800 high-ranked economists – eleven of whom have won the Nobel Prize – and ifo's decades-deep research expertise to provide well-founded advice to European policymakers. Drawing on the wide range of specializations of its members, EconPol's mission is to contribute to the crafting of effective economic policy in the face of the rapidly evolving challenges faced by the European economies and their global partners.



EconPol POLICY BRIEF

A publication of the CESifo Research Network

Publisher and distributor: CESifo GmbH

Poschingerstr. 5, 81679 Munich, Germany

Telephone +49 89 9224-0, Email office@cesifo.de

Editors: Clemens Fuest, Florian Dorn

Reproduction permitted only if source is stated and copy is sent to CESifo.

EconPol Europe: www.econpol.eu

NATO Defense Spending in 2023: Implications One Year After Russia's Invasion of Ukraine

Florian Dorn, Niklas Potrafke, Marcel Schlepper*

War is raging close to NATO's Eastern border. Russia has attacked Ukraine and threatens those states that in the past had been part of Moscow's sphere of influence. Many of them are now member states of NATO. As a collective defense alliance, this poses a threat to all NATO members. Since the ability to defend against an aggressor does not come for free, defense spending will be on the agenda at the NATO Summit in Vilnius in July 2023. NATO Secretary General Jens Stoltenberg has already expressed his expectation that all member states no longer see the 2% target as a mere ambition, but as the floor for their future defense spending (NATO, 2023a). We present first results for the expected defense spending of the 30 NATO members¹ and the candidate country Sweden in 2023. We compiled data on defense spending from national budgets and converted them to comparable units. We estimate by how much defense spending would have to rise for all NATO members to meet the 2% target. Meeting the target will pose a significant challenge for several member states and their national budgets.

Defense Investment Pledge: The 2% Target

After the Cold War ended, defense spending of most NATO member states has been in sharp decline. In 1990, NATO spent a total of 4.1% of its gross domestic product (GDP) on defense (NATO, 2022a). Ten years later, the expenditure had dropped to 2.6%. While the Cold War-era NATO members (excluding the United States) accounted for 39% of the total defense expenditure in 1990, their share had fallen to 27% by 2020 (Fig. 1). This decline in defense spending was primarily compensated by the United States, at a time when NATO grew from 15 to 29 members. After the Cold War, NATO suffered from a classic free-rider problem. Article 5 of the North Atlantic Treaty states that an attack on one member is considered an attack on all members. In this system of collective defense, individual members could scrimp on their own defense spending while relying

* Florian Dorn: EconPol Europe, ifo Institute, Munich, dorn@ifo.de; Niklas Potrafke: ifo Institute, Munich, potrafke@ifo.de; Marcel Schlepper: ifo Institute, schlepper@ifo.de.

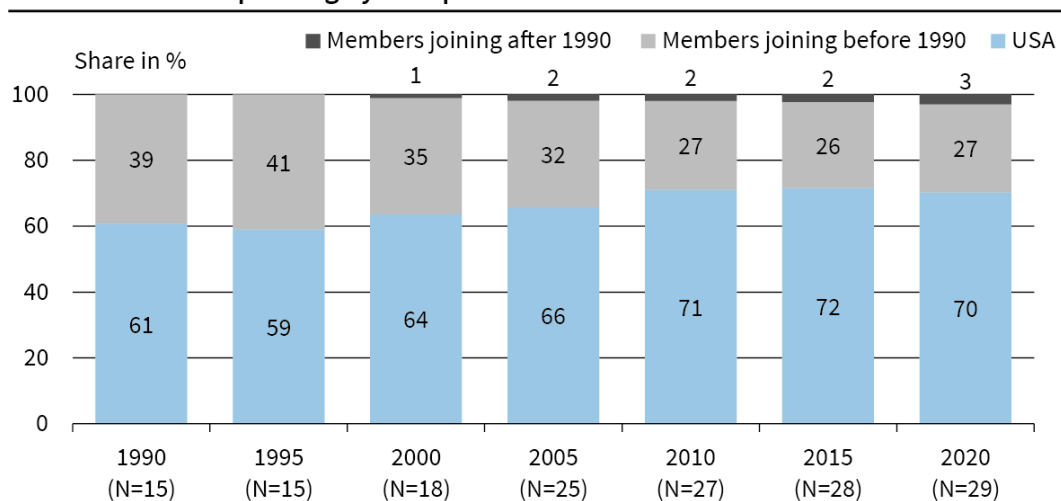
We are grateful to Sebastian Kleine Kuhlmann for research assistance during his internship.

¹ We exclude Iceland in our discussion, since, although an official NATO member, it does not have own military forces.

on protection from the United States. For two decades, the so-called *peace dividend* allowed these countries to prioritize other expenditures in their budgets.

When Russia annexed Ukraine's Crimea in 2014, forcibly changing borders in Europe, Greece, the United Kingdom, and the United States were the only three NATO members with defense spending higher than 2% of GDP. The Wales NATO Summit of 2014 announced the members' commitment to increase defense spending to or towards 2% of GDP within one decade.² By 2021, eight of the now 29 members had met the 2% target. The remaining countries, although having increased their defense spending by an average of 0.3 percentage points between 2014 and 2021, still included eleven members spending less than 1.5% of GDP on defense.

Figure 1
Share of Defense Spending by Group between 1990 and 2020



Note: In each case, N=x indicates the number of NATO member states excluding Iceland at the time.
Source: NATO; calculations by the ifo Institute.

© ifo Institute

2% Target After Russia's Invasion of Ukraine

With the Russian invasion of Ukraine in February 2022, the threat to European NATO members reached a new level. This prompted many governments to publicly announce their intention to increase defense spending towards the 2% target. The time they allowed themselves to reach the target, however, varied markedly: from 2024 in Bulgaria and 2025 in France, to 2028 in Italy, 2029 in Spain and 2035 in Belgium (Runkel

² While the international agreement was made by governments, in many member states is the final sovereignty over the state budget in the hands of the parliament. Moreover, new governments did not necessarily fulfill the commitments made by the previous governments (Blum and Potrafke, 2020).

and Lawrence, 2023). While this shows a new willingness to contribute more strongly to NATO's defense capabilities, whether words will be followed by deeds remains to be seen. The national budgets for 2023 can provide fresh evidence, as the first ones to be planned and finalized after the Russian war against Ukraine started. Thus, the 2023 budgets offer ambitious governments the opportunity to create fiscal space for an increase in defense spending.

Methodology

NATO has not yet published official statistics on defense spending for 2023. We estimate defense spending according to NATO's classification relative to expected GDP for 2023. First, we collect defense budgets in local currency from the national budgets of 2023 for all 30 NATO member states plus Sweden. Usually, we employ only and entirely the defense budget as the basis for our calculation. In some cases, however, we make adjustments: For Germany, Poland and Hungary, for example, the newly established defense funds outside the regular budgets are also included. Due to different national accounting practices, NATO defense expenditure often differs from the spending listed in the national defense budgets (NATO, 2022b). To obtain results that can be compared, the national defense budgets were converted according to a country-specific key. For this purpose, we calculated the ratio of NATO defense expenditure (as published by NATO) to national defense budgets over the 2018-2022 period. We then took the average value for each country as its key for conversion. The resulting keys range from 0.94 for Romania to 1.51 for Belgium. Finally, the estimated nominal defense expenditures were divided by the IMF 2023 GDP forecast (IMF 2023).

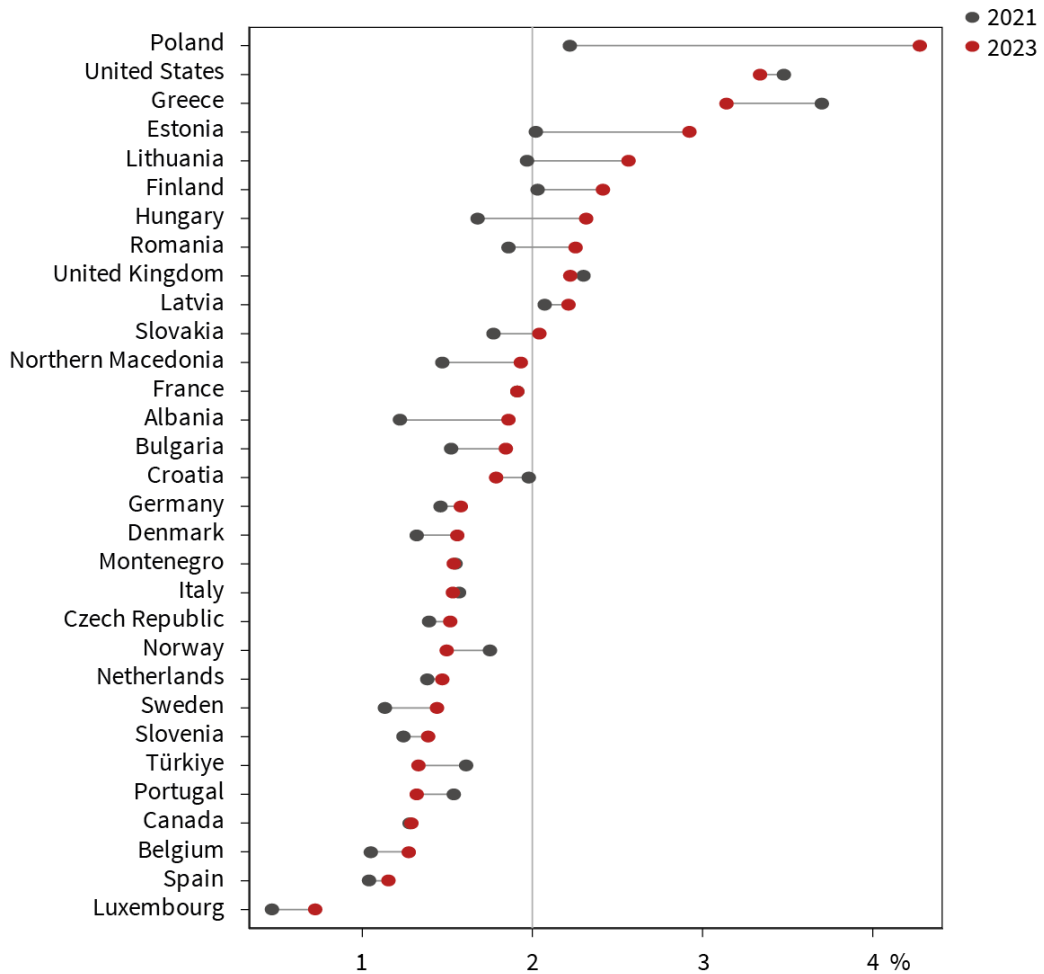
Defense Spending in 2023

More than two-thirds of NATO member states have increased their defense spending relative to GDP since the Russian attack on Ukraine (Fig. 2). And yet, according to our calculations, only eleven of the 30 NATO member states will meet the 2% target in 2023. Five other countries show values above 1.8%, putting them close to the 2% target. Overall, average defense spending as share of GDP of all NATO members and Sweden has risen from 1.7% to 1.9% over the past two years.

With defense spending at 4.3% of GDP in 2023 and a 2.1-percentage-point increase over 2021, Poland is NATO's front-runner. It passed the *Defense of the Fatherland Act* to permanently increase its defense budget to 3% of GDP, and additionally established a defense fund outside the regular budget (Janes, 2022). With defense spending above 3% of GDP, Greece and the United States are also in the top ranks. Fourteen NATO member states and Sweden will spend less than 1.6% of GDP on defense in 2023, with Luxembourg ranking last at 0.7% of GDP.

Figure 2

Defense Spending as a Share of GDP in 2021 and 2023



Source: National budgets; NATO; EDA; IMF; calculations by the ifo Institute.

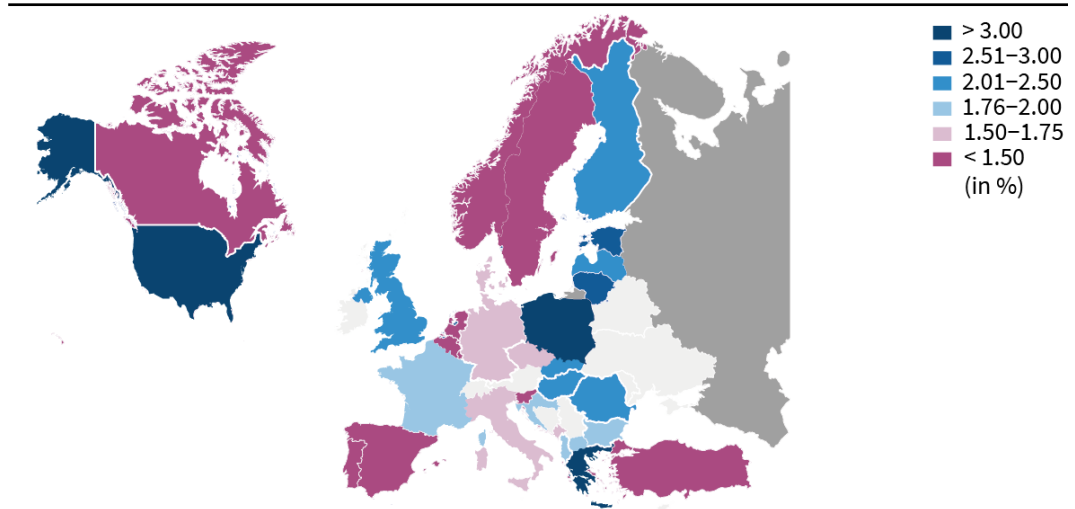
© ifo Institute

Geographic Differences

NATO members from East to West have reacted to the enhanced threat from Russia with differing speed. In 2023, the 2% target will mainly be met by those NATO members with close geographic proximity to Russia (Fig. 3). In the North, new NATO member Finland is expected to spend 2.4% of GDP on defense. It shares a long border, and a conflict-ridden history, with Russia. Further South, Estonia, Lithuania and Latvia lie along the Russian and Belarussian borders and, due to their status as former Soviet republics, feel particularly threatened by Russia's expansionist ambitions. They will all spend more than 2% of GDP in 2023 and are aiming for defense spendings of 3% of their GDP in the coming years (Defense Post, 2022). Poland, in turn, will spend most of all NATO members on defense in 2023, with more than 4% of its GDP. Slovakia, Hungary, and Romania are also immediate neighbors to the war in Ukraine, prompting them to invest

more than 2% in their defense in 2023. Except for Finland, all the aforementioned countries host NATO's multinational combat groups. Thus, while the eastern NATO members receive support from their western partners, they are all investing heavily in their own defense capabilities, with the highest defense spending relative to GDP in 2023 (Fig. 3) and the highest rise between 2021 and 2023 (Fig. 4).

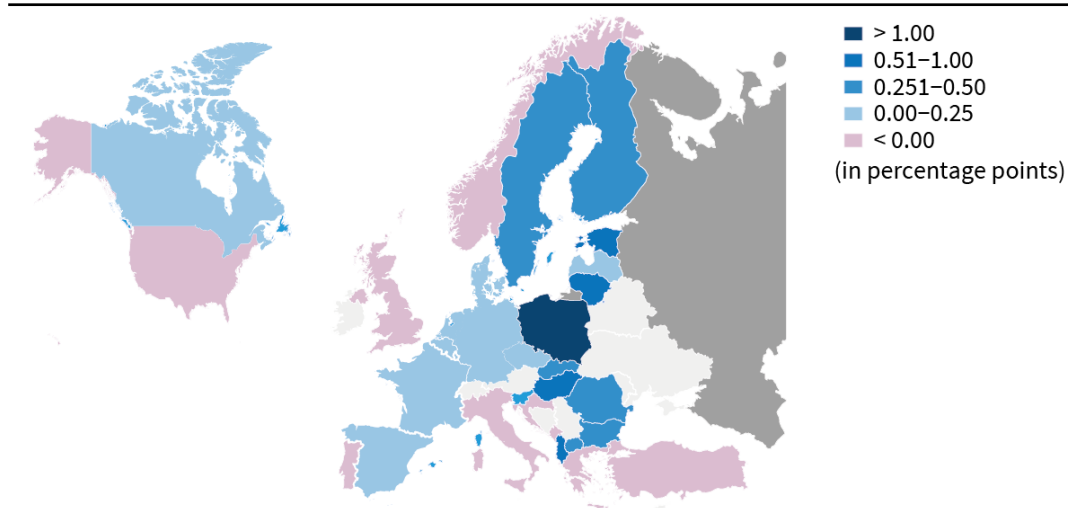
Figure 3
Defense Spending as a Share of GDP in 2023



Source: National budgets; NATO; EDA; IMF; calculations by the ifo Institute.

© ifo Institute

Figure 4
Change in Defense Spending as a Share of GDP between 2021 and 2023



Source: National budgets; NATO; EDA; IMF; calculations by the ifo Institute.

© ifo Institute

NATO adopted the idea that all member states should make a fair contribution according to their economic power. After all, NATO's deterrence is a collective endeavor of all its members. NATO's heavyweights, located in North America and in central or western Europe, play a dominant role. In 2023, the United States will spend about 3.3% of GDP, while the other two nuclear powers, France, and the United Kingdom, will spend 1.9% and 2.2% of GDP, respectively. The other European economic powers—Germany (1.6%), Italy (1.5%), Spain (1.2%), and the Netherlands (1.5%)—will still fall well short of the 2% target (Fig. 3). These countries have so far shown only relatively minor responses to the Russian war against Ukraine in their defense spending in 2023 (Fig. 4). Canada (1.3%) also shows little effort to increase defense spending in 2023.

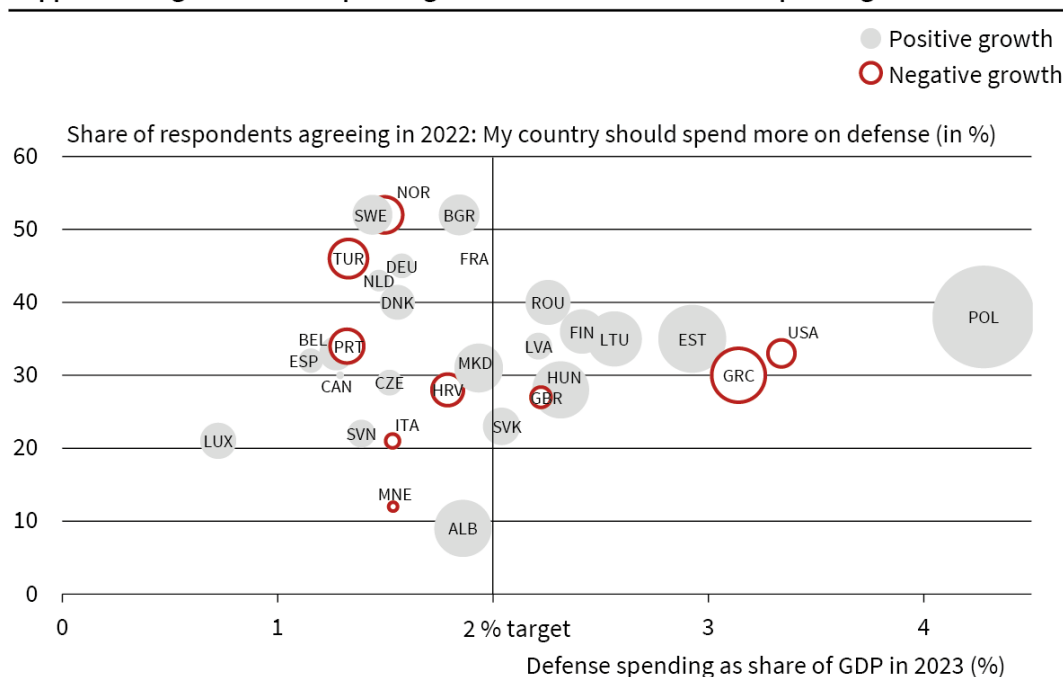
Support for Higher Defense Spending

Protection against external threats is a public good—and one of the core tasks of a state, since the state's very existence hangs in the balance. Maintaining an armed force, however, is expensive. Many NATO members must consolidate their budgets and have hardly any leeway for significant increases in expenditure. Thus, if they want to reach the 2% target in defense spending in such times of little fiscal space, they need the support of their citizens. If higher defense spending means making spending cuts elsewhere or raising taxes or public debt, it will be difficult for them to achieve a majority in parliament and elections, which may tempt some of them to simply announce that the 2% target will be reached sometime in the future. NATO's *Annual Tracking Survey* collects public opinion on the alliance. The December 2022 survey showed that support for higher defense spending rose slightly since Russia's invasion of Ukraine (NATO 2023b), but with large variance among the member countries (Fig. 5).

In most countries, between 20% and 50% of NATO member states' populations support a further increase in defense spending (Fig. 5). The states that will reach the 2% target in 2023 have been successful in building public support for their defense policy. Those that will fall short of the 2% target show major differences in terms of public sentiment towards higher defense spending. In Germany, France, the Netherlands, and Sweden, for example, more than 40% of respondents in the 2022 survey called for a rise in defense spending (Fig. 5). In contrast, the governments of Italy, Luxembourg and Slovenia have gathered hardly any support for closing their large shortfalls. It is doubtful whether these countries' governments can push through a hike in defense spending in parliament without being punished in elections.

Figure 5

Support for Higher Defense Spending Relative to Current Defense Spending



Note: The size of the bubbles represents the growth in defense spending relative to GDP between 2021 and 2023 (in percentage points).

Source: National budgets; NATO; EDA; calculations by the ifo Institute.

© ifo Institute

Spending Gap to 2%

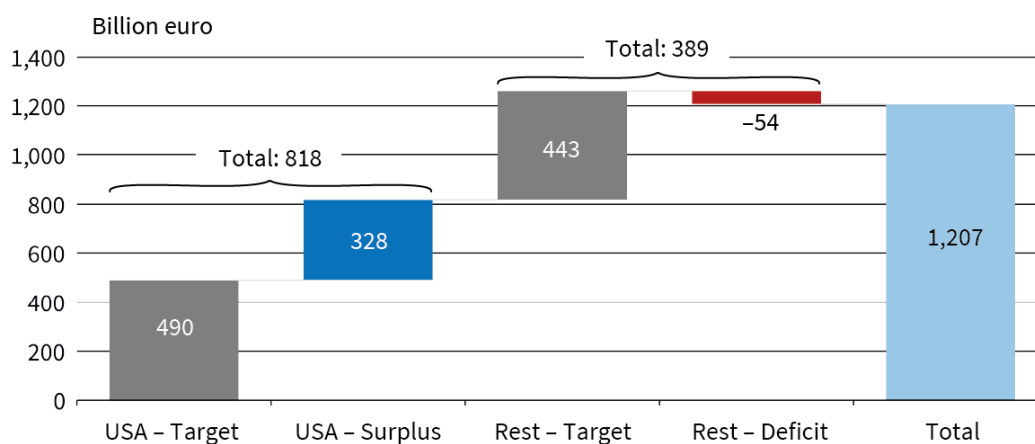
At the NATO Summit in Vilnius in July 2023, defense spending will be on the agenda. So far, countries with too low defense spending could argue that the wording of the Wales Summit Declaration from 2014 only called for a move towards the 2%. But NATO Secretary General Jens Stoltenberg has expressed his expectation that spending 2% of GDP on defense will in future no longer be a mere ambition, but a floor (NATO, 2023a).

Total Defense Spending of NATO in 2023

In 2023, defense spending of the 30 NATO members and Sweden is expected to amount to 1.207 trillion euros. Although only eleven of the 31 countries will meet NATO's 2% target, defense spending relative to GDP will be at 2.6% in total. This is mainly due to the United States, which is by far the largest economy and defense spender in 2023. With a share of about 3.3% of its GDP, the United States invests almost 818 billion euros in defense, some 328 billion euros more than would be required by NATO's 2% target (Fig. 6). By contrast, the remaining 30 countries invest about 1.8% of their total GDP in

defense. They would have to spend 443 billion euros on defense to reach exactly 2% of their total GDP. These countries' shortfall will amount to 54 billion euros in 2023. Despite the new geopolitical challenges, most NATO members seem to continue relying on security guarantees given by the United States.

Figure 6
Defense Spending in the United States and Rest of NATO in 2023



Source: National budgets; NATO; EDA; IMF; calculations by the ifo Institute.

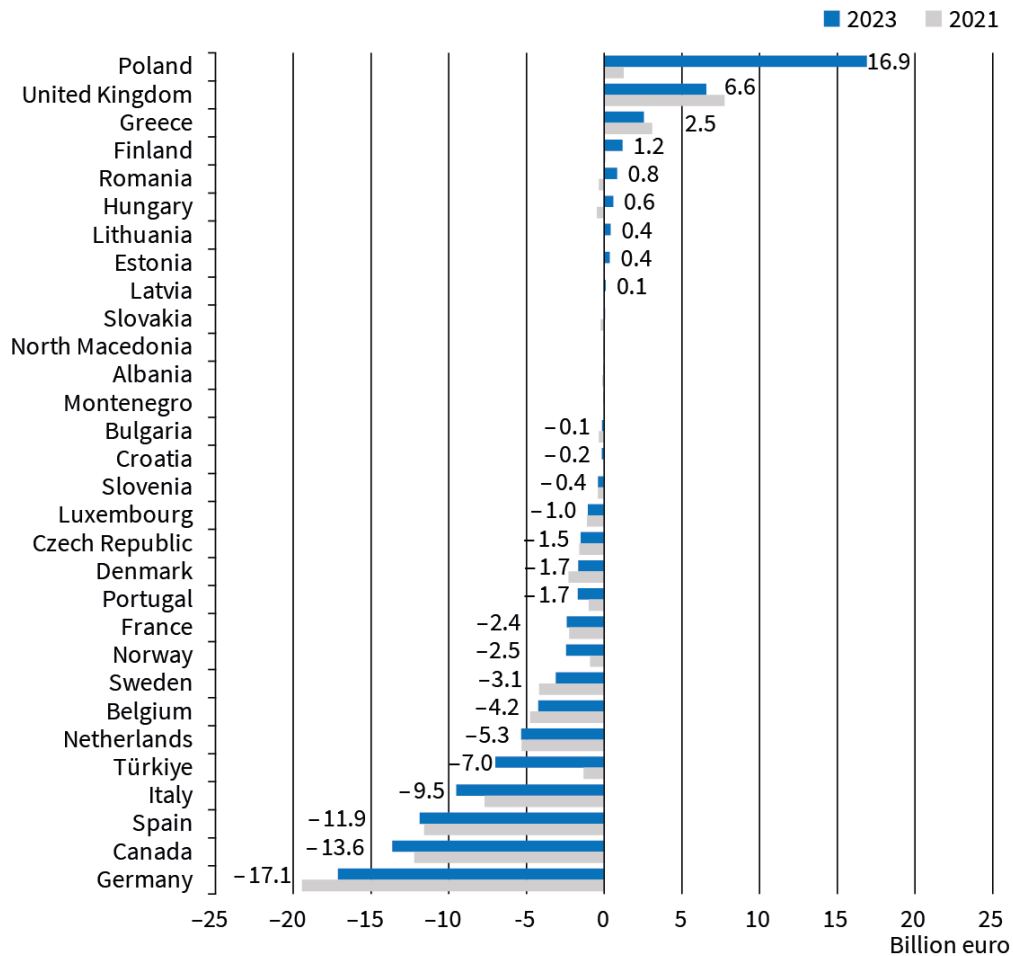
© ifo Institute

Member States' Surpluses and Shortfalls

The size of a country's economy plays an important role in how individual national defense budgets affect the alliance's defense spending and capabilities. For example, Estonia, Latvia, and Lithuania will together contribute only 4 billion euros in 2023—despite their spending lying well above 2% of GDP. Closing the estimated 54-billion-euro spending gap (excluding the United States) will thus require action by the large economies. Figure 7 shows members' defense spending surpluses and shortfalls in relation to the 2% target. The largest shortfalls, and thus the largest burdens on the financial means of NATO's common defense effort, are attributable to countries with large economies such as Germany (EUR17bn), Canada (EUR14bn), Spain (EUR12bn), Italy (EUR10bn), Turkey (EUR7bn), and the Netherlands (EUR5bn). Germany's shortfall is considerable even though it spends an additional eight billion euros from its debt-financed defense fund in 2023. Whereas Germany's gap has slightly decreased compared to 2021, the other five countries show little movement, and some even a widening of the gap (Fig. 7). It is noteworthy that Poland's surplus over the 2% target is as large as Germany's shortfall in 2023.

Figure 7

Defense Spending Gap Relative to the 2% Target (Excluding the USA)



Note: Figures for the year 2023.

Source: National budgets; NATO; EDA; IMF; calculations by the ifo Institute.

© ifo Institute

Policy Conclusion

Given the unequal burden-sharing in the alliance even in the face of new geopolitical threats, the 2% target will again be on the agenda at the NATO Summit in Vilnius in July 2023. The proposal to invest at least 2% of GDP in defense will be a key item for discussion. Given that some members will face considerable strain on their budgets if they want to meet the 2% target, one option would be to consolidate other areas of the national budget. Alternatively, countries falling short of the 2% target could generate additional revenues through new taxes or debt, making future generations pay for today's defense capabilities.

There are, however, good arguments for not immediately cutting spending in other policy areas of the budget. Taking on new debt would make it possible to increase defense capabilities quickly without jeopardizing social peace, economic stability, or urgent investments in the future. However, if countries want to permanently increase defense spending towards at least 2% of GDP³, financing by public debt would only be a short-term solution. In the medium term, the resources required would need to come from within their core national budgets. In the context of scarce resources and other major challenges that many western democracies face, such as the digital transformation, climate change, and demographic aging, increased defense spending will unavoidably exacerbate their financial challenges. Clearly, Europe's *peace dividend* has come to an end. The financial leeway for governments is getting smaller, but this is an imperative they simply cannot ignore.

³ We used the NATO's target of 2% relative to GDP for defense spending as a given for discussing the results. Relevant for strengthening defense capability is also how efficiently and where resources are invested. About this our analyses do not make any statements.

References

- Blum, J., and Potrafke, N. (2020). Does a change of government influence compliance with international agreements? Empirical evidence for the NATO two percent target. *Defence and Peace Economics*, 32(7), 743-761,
- Defense Post (2022). Baltics to Up Defense Spending to Three Percent of GDP. Link: <https://www.thedefensepost.com/2022/12/12/baltics-up-defense-spending/> (Retrieved on 11th May 2023)
- IMF (2023). World Economic Outlook, April 2023: A Rocky Recovery. International Monetary Fund, Washington DC.
- Janes (2022). Poland unveils record 2022 defence budget. By Matilde Stronell. Link: <https://www.janes.com/defence-news/news-detail/poland-unveils-record-2022-defence-budget> (Retrieved on 11th May 2023)
- NATO (2022a). Information on defence expenditure. Archive of tables: 1992, 2003, 2014, 2022. Link: https://www.nato.int/cps/en/natohq/topics_49198.htm (Retrieved on 11th May 2023)
- NATO (2022b). Defence Expenditure of NATO Countries (2014-2022). Press Release. From 27th June 2022.
- NATO (2023a). Press conference by NATO Secretary General Jens Stoltenberg following the meetings of NATO Ministers of Foreign Affairs. 05th April 2023.
- NATO (2023b). NATO Annual Tracking Research 2022. Public Diplomacy Division.
- Runkel, W., and Lawrance, T. (2023). Defence Spending: Who Is Doing What? Link: <https://icds.ee/en/defence-spending-who-is-doing-what/> (Retrieved on 11th May 2023)

Appendix

Table 1: Defense expenditure in 2023 and changes since 2021

	Defense expenditure relative to GDP		Nominal expenditure	Price level
	2023 (in %)	Change from 2021 to 2023 (in %)	Change from 2021 to 2023 (in %)	Change from 2021 to 2023 (in %)
Poland	4.3	2.1	152	28
United States	3.3	-0.1	13	13
Greece	3.1	-0.6	4	14
Estonia	2.9	0.9	79	31
Lithuania	2.6	0.6	69	31
Finland	2.4	0.4	34	13
Hungary	2.3	0.6	69	35
Romania	2.3	0.4	66	26
United Kingdom	2.2	-0.1	11	17
Latvia	2.2	0.1	40	29
Slovakia	2.0	0.3	40	23
North Macedonia	1.9	0.5	62	25
France	1.9	0.0	10	11
Albania	1.9	0.6	77	12
Bulgaria	1.8	0.3	62	22
Croatia	1.8	-0.2	14	19
Germany	1.6	0.1	22	15
Denmark	1.6	0.2	33	14
Montenegro	1.5	0.0	31	24
Italy	1.5	0.0	12	14
Czech Republic	1.5	0.1	32	29
Norway	1.5	-0.3	16	11
Netherlands	1.5	0.1	26	16
Sweden	1.4	0.3	38	15
Slovenia	1.4	0.1	38	16
Türkiye	1.3	-0.3	152	159
Portugal	1.3	-0.2	1	14
Canada	1.3	0.0	15	11
Belgium	1.3	0.2	40	15
Spain	1.2	0.1	29	13
Luxembourg	0.7	0.3	74	11

Source: National budgets; NATO; EDA; IMF; calculations by the ifo Institute.