

JULY 2018

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Assessing NATO and Partner Burden Sharing

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CSIS

CENTER FOR STRATEGIC &
INTERNATIONAL STUDIES

A Report of the
CSIS INTERNATIONAL SECURITY PROGRAM

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Introduction

The transatlantic security alliance rests on three pillars: common interests and values; political cohesion; and a sharing of the burden for collective defense. The stresses in U.S.-European relations are creating fissures in the architecture of our shared security and raising doubts about the stability of long-established structures of transatlantic cooperation. In these circumstances it is vital to renew our understanding of our alliance and examine the integrity of its supports. Transatlantic burden sharing is a crucial element that deserves scrutiny.

In recent years, discussion about transatlantic security spending has focused increasingly on whether NATO members are spending the 2 percent of their gross domestic product (GDP) on defense that alliance leaders have endorsed with a target date of 2024. The upcoming July 2018 NATO Summit in Brussels will focus attention on alliance defense spending, even as it pursues deliverables such as the “NATO Readiness Initiative” that would ensure NATO has 30 battalions, 30 combat vessels, and 30 air squadrons ready within 30 days. The NATO spending question has created tensions on both sides of the Atlantic. President Trump’s rhetoric on the matter is uniquely divisive, but former U.S. presidents and advisers have expressed frustration with allied spending as well. In 2011, Secretary of Defense Robert Gates referred to himself as the “latest in a string of U.S. defense secretaries who have urged allies privately and publicly, often with exasperation, to meet agreed-upon NATO benchmarks for defense spending.”¹

Although the transatlantic security community actively debates the merits of the 2 percent measure, it has not identified an alternative measure or set of measures to adopt instead. This report seeks to catalyze that political and analytical discussion of alternatives by widening the aperture for assessing and comparing the security contributions of NATO allies and key European partners.

The 2 percent mark has existed unofficially for over a decade and was formally affirmed for the first time at the head of state/government level at the 2014 NATO Summit in Wales. There, NATO heads of state called on members spending under 2 percent to “halt any decline in defence expenditure; aim to increase defence expenditure in real terms as GDP grows; and aim to move towards the 2% guideline within a decade with a view to meeting their NATO Capability Targets and filling NATO’s capability shortfalls.”² Since the Wales Summit, the 2 percent spending level—which President Trump has called “the bare minimum for confronting today’s very real and very vicious threats”—has become the primary metric by which NATO members’ contributions to the alliance are measured.³ If evaluating partners by that metric, the United States’ criticisms are justified; only 4 of the 29 NATO states meet the 2 percent spending level according to 2017 estimates.

The fairness of the 2 percent metric has been questioned by some who regard the benchmark as a measure of inputs rather than security outputs. According to critics, the metric unfairly recognizes spending levels regardless

1 Robert M. Gates, *Remarks by Secretary Gates at the Security and Defense Agenda, Brussels, Belgium*, June 10, 2011, <http://archive.defense.gov/Transcripts/Transcript.aspx?TranscriptID=4839>.

2 NATO Heads of State, “Wales Summit Declaration,” September 5, 2014, https://www.nato.int/cps/ic/natohq/official_texts_112964.htm.

3 Jeremy Diamond, “Trump Scolds NATO Allies Over Defense Spending,” CNN, May 25, 2017, <https://www.cnn.com/2017/05/25/politics/trump-nato-financial-payments/index.html>.

of whether those resources are employed in the service of allied security, and at the same time discounts the efforts of allies who make more meaningful contributions to the alliance while falling short of 2 percent.⁴ While Secretary Gates asserted that “there is no substitute for nations providing the resources necessary to have the military capability the Alliance needs when faced with a security challenge,” he similarly acknowledged that several NATO members spending below the threshold have “managed to punch well above their weight because of the way they use the resources they have.”⁵

To generate insight into the debate on transatlantic spending, the CSIS study team worked with experts in budget assessment, military readiness, and Europe to identify seven plausible measures of collective security contributions from NATO members and six important partners (Austria, Finland, Georgia, Moldova, Sweden, Ukraine).

- NATO-mandated spending threshold of 2 percent of GDP on defense
- NATO-mandated spending threshold of 20 percent of defense expenditures on major equipment and research and development
- Security assistance spending
- Military personnel contributions to military operations
- Pre-crisis military mobility
- Bearing the economic effects of security-related economic sanctions decisions
- Average refugee intake as a representation of the burden countries bear due to instability in NATO’s periphery

The sections that follow assess each prospective measure for its attributes and limitations as a means for understanding nations’ contributions to common goals. The report then highlights gaps in data collection and reporting—by NATO, the European Union, and individual nations—that, if mitigated, could improve the rigor of security spending analysis. The CSIS study team finds that NATO and the European Union would be best served by using a range of metrics to assess allies’ and partners’ contributions to common security objectives. This report presents a first step in developing such a suite of measures. More work will be needed to arrive at credible, defensible measures to which the alliance can agree.

4 John Deni, “Burden Sharing and NATO’s 2 Percent Goal,” *Carnegie Europe*, April 14, 2015, <http://carnegieeurope.eu/strategieurope/59767>.

5 Gates, *Remarks by Secretary Gates at the Security and Defense Agenda*, Brussels, Belgium.

Current NATO Benchmarks

DEFENSE EXPENDITURE AS A SHARE OF GROSS DOMESTIC PRODUCT (GDP)

The official 2 percent threshold, while mandated at the 2014 Wales Summit, has long been understood as an unofficial spending target for NATO members. At the 2002 Prague Summit, member states made a “gentleman’s agreement” to meet the 2 percent spending threshold for defense.⁶ Yet by 2005, NATO Supreme Allied Commander General James Jones found that the “2 percent floor [was] becoming a ceiling.”⁷ One year later at the 2006 meeting of NATO defense ministers, member states again “committed to endeavor, to meet the 2% target.”⁸ Yet at the concluding press briefing, the NATO spokesman was keen to stress that it was “not a hard commitment that they [would] do it,” but rather “a commitment to work towards it.”⁹

The 2014 Wales Summit marked the first official endorsement by heads of state/government of the 2 percent target. The summit declaration states: “Allies currently meeting the NATO guideline to spend a minimum of 2% of their Gross Domestic Product (GDP) on defence will aim to continue to do so.” Allies currently spending below the 2 percent level will:

- “halt any decline in defence expenditure;
- aim to increase defence expenditure in real terms as GDP grows;
- aim to move toward the 2% guideline within a decade with a view to meeting their NATO Capability Targets and filling NATO’s capability shortfalls.”¹⁰

According to 2017 estimates illustrated in Figure 1, only 4 (the United States, Greece, United Kingdom, and Estonia) of the 28 NATO member states meet the 2 percent spending level.¹¹ Ukraine, the only NATO partner to exceed 2 percent, spends the second-greatest percentage on defense in 2017 at 3.57 percent after the United States. Georgia and Poland both narrowly miss out on the 2 percent level with spending levels of 1.99 percent of GDP. It is worth noting that some allies that had been expected to meet the 2 percent target in 2017 have fallen short because of faster-than-expected growth in GDP, rather than a decline in defense spending.

Eight NATO members (and one partner) fall between the 1.5 percent and 2 percent of GDP spending levels. Notably, a majority of allies (16) and four of the six included partners fall under the 1.5 percent level.

Allies also have agreed to present plans for how they will reach the 2 percent target by the year 2024 (10 years from the Wales Summit); to date 15 of 29 NATO members have developed such plans.

6 Philip Gordon, *NATO’s Growing Role in the Greater Middle East*, Emirates Lecture Series 63 (Abu Dhabi: The Emirates Center for Strategic Studies and Research, 2006), 31, <https://www.brookings.edu/wp-content/uploads/2016/06/emirates20060530.pdf>.

7 Ibid.

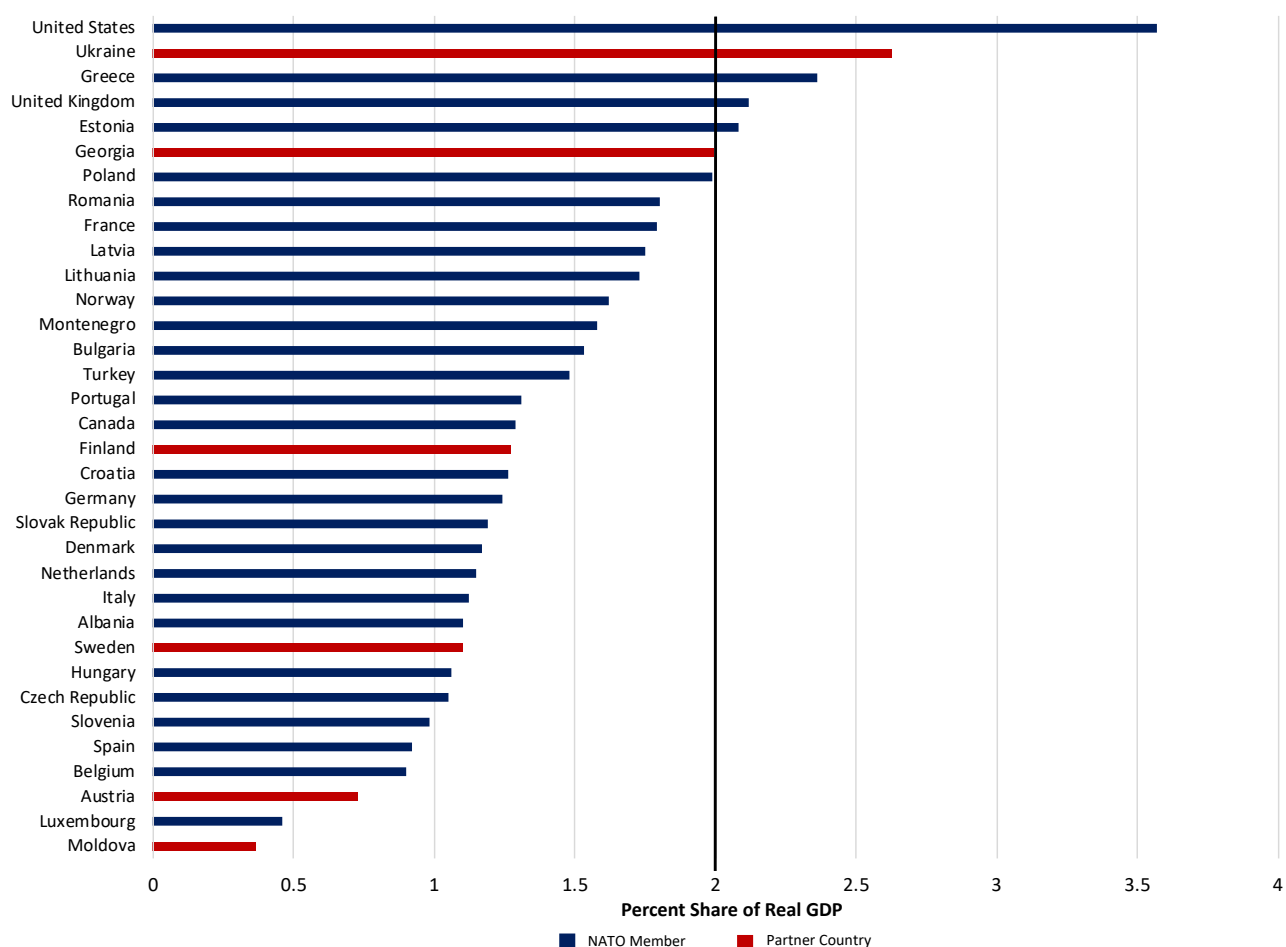
8 James Appathurai, *Press Briefing by NATO Spokesman, James Appathurai, after the Meeting of the North Atlantic Council at the Level of Defence Ministers*, June 8, 2005, <https://www.nato.int/docu/speech/2006/s060608m.htm>.

9 Ibid.

10 NATO Heads of State, “Wales Summit Declaration.”

11 Iceland is not represented on any figures in this report as it has no armed forces.

Figure 1: Defense Expenditure as a Share of GDP (Based on 2017 estimates)¹²



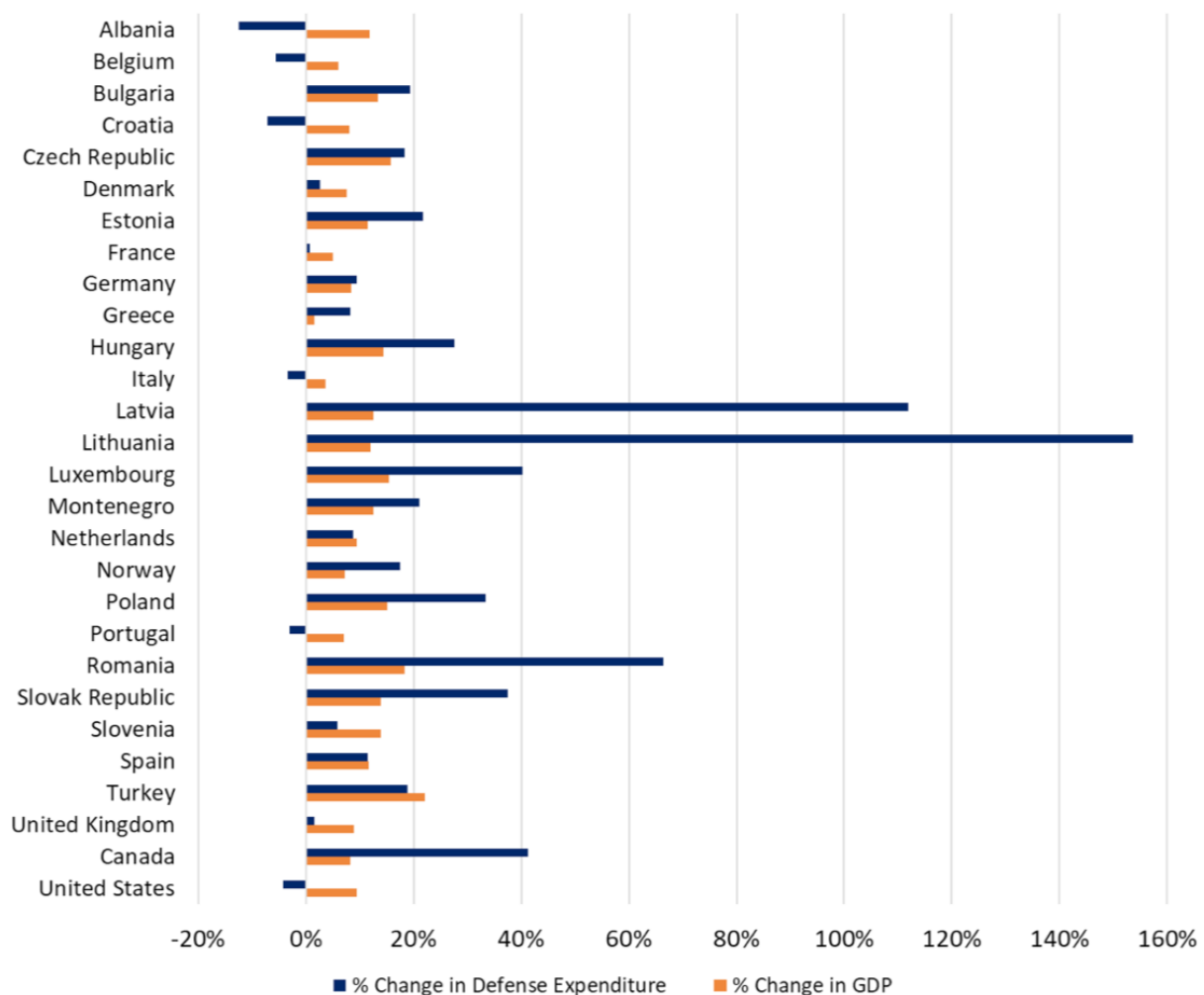
As a metric for assessing and comparing the contribution of NATO members and partners, the 2 percent threshold is perhaps most useful as an indicator of political willingness. States that meet or demonstrate a willingness to meet their 2 percent obligation are seen as willing contributors to the collective defense effort, while those that fail to meet it, or show little intention of meeting it, are perceived as free riders.¹³ The seeming simplicity of the metric makes it useful for public communications. President Trump’s focus on the 2 percent measure demonstrates the resonance and ease of its strategic messaging. Countries are forced to demonstrate their accountability by either increasing their investment in the alliance or explaining how else they are contributing to the collective defense effort.

However, there are weaknesses in using the 2 percent threshold for evaluating members’ contributions to the alliance. A country’s defense expenditure expressed as a percentage of GDP may be unduly influenced by fluctuations in that country’s economy. For example, if a member state’s defense expenditure remains constant from one year to the next while its GDP decreases, its defense spending as a percentage of GDP increases even as its defense output stays constant.

¹² Throughout this report, defense expenditure data for Bulgaria does not include pensions, as recorded by NATO.

¹³ Jan Techau, *The Politics of 2 Percent: NATO and the Security Vacuum in Europe* (Brussels: Carnegie Europe, 2015), 8, https://carnegieendowment.org/files/CP_252_Techau_NATO_Final.pdf.

Figure 2: Percent Change in Defense Expenditure vs. Percent Change in GDP (2013–2017 estimates)¹⁴



Similarly, the funding allocated toward defense by countries with weak or small economies may appear greater than the allocations of countries with strong or growing economies. Germany’s defense budget is almost identical to that of France and amounted to \$45.47 billion in 2017. Germany’s defense spending grew by 9.3 percent in 2017 compared to 2016, but the rapid growth in GDP at a rate of 2.5 percent meant that Berlin’s defense spending ratio increased only slightly, from 1.20 percent of GDP to 1.24 percent.¹⁵

Assessing NATO members’ defense expenditures as a single year, percent of GDP snapshot fails to take into consideration this economic context as well as countries’ efforts to increase their defense spending. Figure 2 demonstrates that allies are largely increasing defense expenditures across the board with only six countries (Albania, Belgium, Croatia, Italy, Portugal, and the United States) seeing a decrease in their spending between 2013 and 2017. Of the 22 countries that increased spending over that time, the majority saw real growth in defense expenditures above the growth in their economies (all countries’ economies grew between 2013 and 2017).

¹⁴ Data for partner countries included in the study was unavailable for Figure 2.

¹⁵ Rene Wagner and Michael Nienaber, “IMF, Economic Institutes Raise Their Forecast for German Growth,” Reuters, April 17, 2018, <https://www.reuters.com/article/us-germany-economy-gdp/imf-economic-institutes-raise-their-forecasts-for-german-growth-idUSKBN1HO0YY>.

Another major criticism of the 2 percent threshold is that it represents a measure of inputs rather than outputs.¹⁶ Assessing the financial contribution of a member state relative to its economy fails to take into consideration how the money is spent and what it adds to the collective defense effort. It similarly does not assess the efficiency with which it is spent. Analyzing defense spending as a percentage of total government expenditure would more directly measure how much a country is willing to allocate to defense under a particular government or ruling party.

EQUIPMENT EXPENDITURE AS A SHARE OF TOTAL DEFENSE EXPENDITURE

In addition to the commitment to spend 2 percent of GDP on defense, NATO heads of state pledged at the 2014 Wales Summit to spend 20 percent of their defense budgets on major equipment. The declaration states:

Allies spending more than 20% of their defence budgets on major equipment, including Research & Development, will continue to do so. . . . Allies who currently spend less than 20% of their annual defence spending on major new equipment, including related Research & Development, will aim, within a decade, to increase their annual investments to 20% or more of total defence expenditures.¹⁷

NATO breaks defense expenditure into four main categories: equipment, personnel, infrastructure, and other. The equipment category includes procurement spending on major equipment in 11 different areas and the associated research and development spending on that equipment.¹⁸

Personnel costs include pay and allowances, retirement benefits, and pensions for military and civilian employees. Infrastructure costs comprise national military construction and support for NATO common infrastructure, including payments to and receipts from allies for hosting personnel and bases. Operations and maintenance costs largely make up the “other” category.¹⁹

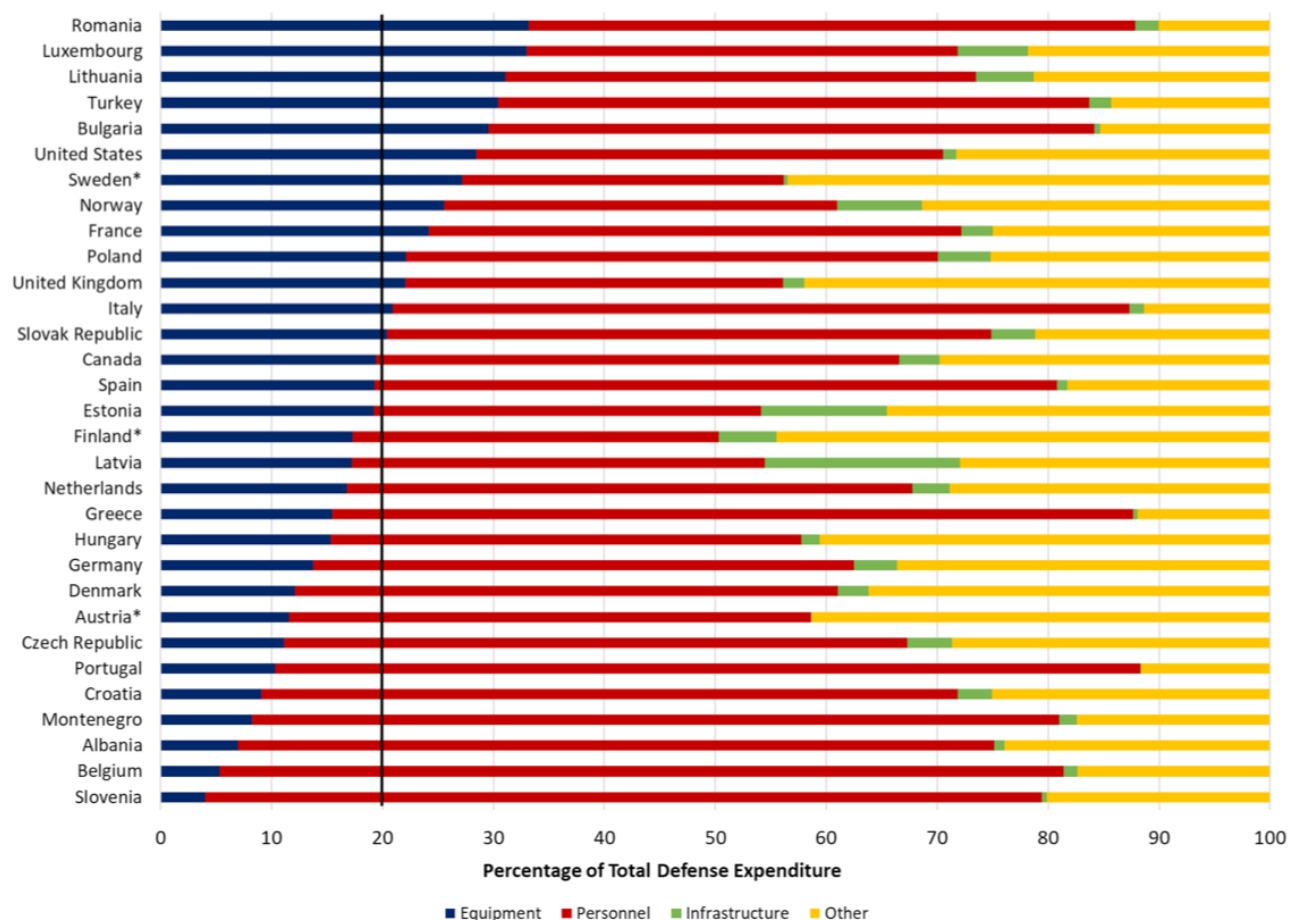
16 Techau, *The Politics of 2 Percent: NATO and the Security Vacuum in Europe*.

17 NATO Heads of State, “Wales Summit Declaration.”

18 Major equipment areas include: missile systems; missiles (conventional weapons); nuclear weapons; aircraft; artillery; combat vehicles; engineering equipment; weapons and small arms; transport vehicles; ships and harbor craft; and electronic and communications equipment.

19 NATO Public Diplomacy Division, “Defence Expenditure of NATO Countries (2010–2017),” June 29, 2017, https://www.nato.int/nato_static_fl2014/assets/pdf/pdf_2017_06/20170629_170629-pr2017-111-en.pdf.

Figure 3: Equipment Expenditure as a Share of Total Defense Expenditure (Based on 2017 estimates unless otherwise specified)²⁰



The commitment to spend 20 percent of defense budgets on equipment holds particular value for an alliance looking to modernize and strengthen capabilities. It pushes allies and partners to make significant and continual investments in their military outside of personnel costs, advancing NATO's efforts to surpass the evolving capabilities of potential adversaries. This is especially important following the recent economic crisis, which saw countries delay or cancel acquisition programs and jettison some military equipment.²¹ It is also an important goal for former Eastern Bloc NATO members that in some cases continue to use Soviet-designed equipment that is increasingly outdated, ineffective, and unreliable.²²

The 20 percent threshold on equipment spending provides a measurable benchmark for investments directly affecting broader NATO security, an advantage over the 2 percent of GDP measure. Based on 2017 estimates displayed in Figure 3, 11 out of 28 NATO members currently spend the mandated 20 percent of their defense budgets on

20 Partner countries are designated by *. The data for the included partner countries is based on 2014 estimates compiled by the European Defence Agency (the most recent data available), which was then placed in the appropriate NATO spending categories.

21 Clara Marina O'Donnell et al., *The Implications of Military Spending Cuts for NATO's Largest Members* (Washington, DC: The Brookings Institution, 2012), 3–4, <https://www.brookings.edu/wp-content/uploads/2016/06/military-spending-nato-odonnell-pdf.pdf>.

22 Max Bergmann, "To Help NATO Allies Get Off Russian Equipment, the United States Should Revive Defense Lending," *War on the Rocks*, February 14, 2018, <https://warontherocks.com/2018/02/help-nato-allies-get-off-russian-equipment-united-states-revive-defense-lending/>.

equipment. Given aforementioned concerns about their reliance on Soviet-era equipment, it is unsurprising that three former Eastern Bloc nations—Romania, Lithuania, and Bulgaria—fall in the top five of countries allocating defense spending to equipment. Also noteworthy, 5 of the 11 countries allocating over 20 percent to equipment participate in the F-35 Joint Strike Fighter program.²³

On average, allies and select partners spend approximately 19 percent of their defense budgets on equipment. This figure pales in comparison to the 52 percent that is spent on average on personnel costs. Unsurprisingly, there tends to be a negative correlation between the percentage of defense spending allocated toward equipment and the percentage allocated toward personnel costs; countries allocating the least toward equipment tend to direct the greatest share of their budgets to personnel. For example, Slovenia and Belgium, at the bottom of the list with 4 and 5 percent dedicated to equipment, respectively, spend over 75 percent of their defense expenditures on personnel.

The significance of the 20 percent metric is reinforced by recent reports of German equipment shortages as it prepares to lead NATO's Very High Readiness Joint Task Force (VJTF) in 2019. As Figure 3 notes, Germany ranks 22nd out of the 31 NATO members and partners assessed, with an estimated 14 percent of its defense budget allocated toward equipment in 2017, well below the 20 percent benchmark. An internal report from the German Army Command to the defense ministry noted that the *Bundeswehr* lacked sufficient numbers of tanks, armored personnel carriers, night vision goggles, automatic grenade launchers, support vehicles, tents, and winter clothing and body armor.²⁴ While ministry officials expressed confidence that the units leading the VJTF would be prepared to assume their responsibilities by 2019, these reports indicate a clear lack of readiness on the part of the German army and suggest deficient investment in equipment on the part of the German ministry of defence.

Measuring security contributions using the 20 percent equipment threshold has drawbacks. As with the 2 percent of GDP metric, it is a measure of inputs rather than outputs. More generally, the 20 percent equipment measure does not assess whether the equipment investments nations are making correspond to the capability targets established by NATO. In some cases, allies may pursue costly procurements or upgrades of fighter aircraft that have not been identified for that nation as part of their NATO responsibility. The alliance collects this data but does not make it publicly available, which leaves a gap in public understanding of whether NATO members are spending their defense resources in ways that contribute to agreed transatlantic security goals.

The 20 percent equipment threshold remains an important indicator of NATO members' and partners' defense priorities. The data collected by the CSIS study team suggests that countries should be allocating a greater percentage of their defense budgets toward acquisition. Yet the shortcomings of the metric should caution politicians and analysts from using it to compare capability among nations. A preferable measure would provide insight to security output: the ready capabilities of a nation within the context of transatlantic security challenges.

The NATO alliance could address this information gap if more of its defense planning data were publicly releasable. The NATO capability review data encompasses valuable information about progress toward NATO's deployability and sustainability targets, the number of person-days, airframe days, and vessel days spent on deployment, and the degree to which each ally is meeting its agreed capability targets. These data is not released publicly; if they were, it would enable a better informed public comparison of the achievements of allies and would provide a clearer public benchmark for publics in allied nations to hold leaders accountable. Alliance leaders should reach agreement to make this data releasable in the interest of a more informed discourse on security burden sharing.

23 Participating NATO members include the United States, United Kingdom, Italy, Netherlands, Turkey, Canada, Denmark, and Norway. Belgium and Finland are considering F-35 purchases.

24 Andrea Shalal, "Equipment Shortages Impair German Military Ahead of Key NATO Mission," Reuters, February 19, 2018, <https://www.reuters.com/article/us-germany-military/equipment-shortages-impair-german-military-ahead-of-key-na-to-mission-idUSKCN1G31PX>; Timothy Jones, "Germany's Bundeswehr 'Lacks Basic equipment' for NATO Mission," *Deutsche Welle*, February 19, 2018, <http://www.dw.com/en/germanys-bundeswehr-lacks-basic-equipment-for-nato-mission/a-42638910>.

Security Assistance Expenditure as a Share of GDP

While Washington calls for greater defense spending by NATO member states, some partners and allies, such as Germany, urge a broad lens for measuring security contributions. Assessments of peace and security investments that fall outside defense budgets, and are thus not counted in the NATO 2 percent goal, are one such area.²⁵

To add some analytical rigor to an already intense political debate, the CSIS study team examined security assistance spending by NATO member states and its select subset of European partners. It defined security assistance spending as spending outside of defense budgets aimed at capacity building, conflict prevention, and stabilization initiatives abroad anticipated to *directly* contribute to security. The category includes expenditures for peacekeeping operations, training for partner militaries, development initiatives strengthening rule of law, crisis management, and related funds. (A comprehensive list is provided in the appendix.) For the sake of scope, initiatives anticipated to have second-order contributions to security have been excluded. This includes democracy promotion.

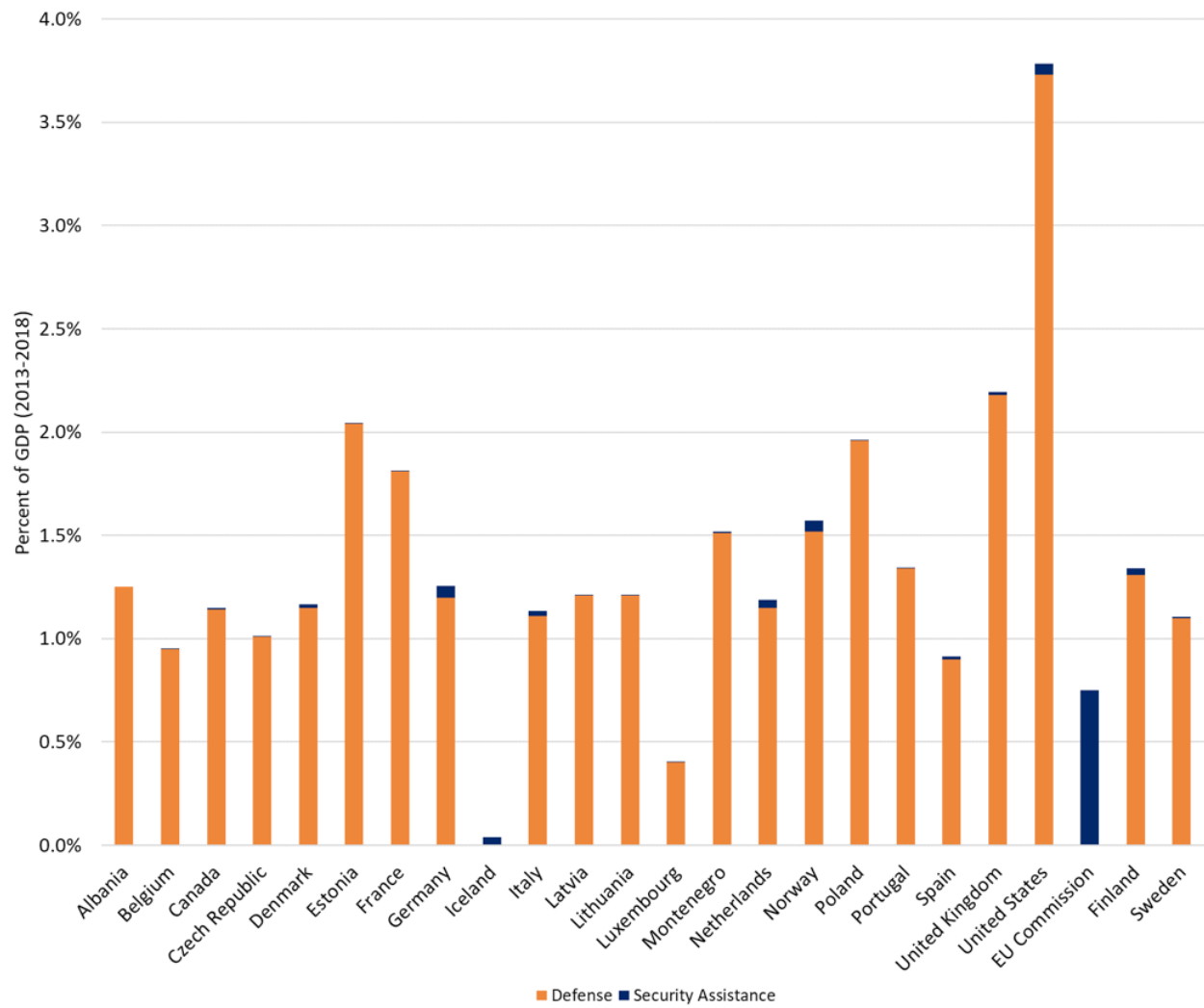
The security assistance metric provides nuance to burden-sharing assessments. However, neither NATO nor the European Union has imposed a standard reporting template for such investments. The CSIS team created its estimates by assessing national-level (and EU Commission) data for expenditures fitting the security assistance criteria described in the prior paragraph. The resulting figures should only be used as estimates, as publicly available data varies by source and often lacks the granularity needed to accurately account for them.

Unsurprisingly, as a strong advocate of comprehensive security, Germany is one of the leading contributors to security assistance spending. It comes in second to the United States in absolute spending and first in terms of percentage of GDP, at approximately 0.057 percent on average between 2013–2018. The seven largest national spenders by percentage of GDP stand out in comparison with the rest: Germany, the United States, Norway, the Netherlands, Iceland, Finland, and Italy. Comparison across countries should be taken with caution, as discrepancies in accounting may distort results. Moreover, a considerable amount of each EU member's security expenditures is a portion of their EU contributions, but is often unspecified in state budgets and thus cannot be attributed to the country's security spending. The EU Commission dedicates 0.749 percent of EU total revenue to security spending.

Overall, by these conservative estimates (likely lower than actual amounts), no ally or partner contribution to security assistance spending comes to more than 0.06 percent of GDP. The EU Commission has the greatest percent expenditure of those examined.

25 Nicole Koenig and Jörg Haas, *The EU as a 3-D Power: Should Europe Spend More on Diplomacy, Development and Defence?*, Policy Paper 2016 (Berlin: Jacques Delors Institut, 2017), <http://www.institutdelors.eu/wp-content/uploads/2018/01/th-eeuasa3dpower-koenighaas-jdib-sept17.pdf?pdf=ok>.

Figure 4: Security Assistance and Defense Expenditures as a Share of GDP (2013–2018)



Troop Contributions as a Share of Total Active Duty Force

Shifting the assessment of security investment from inputs to outputs would significantly advance the quality of NATO's debate about national contributions. One of the most frequently discussed output metrics is troop contributions. Troop contributions as a measure of commitment to NATO is most often cited by those members that fall under the 2 percent threshold to demonstrate that they are contributing more effectively than some states that meet the threshold.

This report compiles NATO member and partner countries' troop contributions across a range of military operations including NATO operations, EU operations, and others. Where data was publicly available and reliable (see Table 1 and Table 2), it measures troop contribution as a percentage of the total active duty force to normalize and compare between countries with militaries of different size. For operations where troop contribution data was unavailable or of questionable veracity, it assesses participation as the primary metric (Table 3). Contributions for NATO operations in Libya in 2011, depicted in Table 3, are measured in the number of ships and aircraft deployed by each country. In most NATO operations assessed in this report, leadership and troop contributions rotated among countries.²⁶

Assessing troop contributions does appear to vindicate the argument that a singular focus on the 2 percent threshold overlooks significant investments in collective defense being made by some states. In all four phases of Afghanistan operations (which include NATO-led operations including the International Security Assistance Force, Operation Resolute Support, and the U.S.-led non-NATO Operation Enduring Freedom mission), Denmark ranked in the top seven contributors while Germany fell within the top eight contributors for three of the four phases. Denmark consistently earns plaudits for its contribution to NATO operations in Afghanistan and Libya, with its participation in the latter commended by Secretary Gates in his 2011 address to the NATO defense ministers.²⁷ Canada was also the top contributor of military personnel as a percentage of active duty force for the first two phases of operations in Afghanistan.

Greece, the second-largest contributor in terms of defense expenditure as a share of GDP (by 2017 estimates), landed in the bottom quartile of troop contributions in three of the four phases in Afghanistan. Yet there are other small countries making the 2 percent of GDP mark for defense spending that are also top performers by the troop-contribution metric. For the latter two phases of Afghanistan operations, for instance, NATO partner Georgia had the highest troop contribution as a share of its active duty force; Estonia also ranked in the first quartile for two phases.

However, there are some shortcomings to using troop contributions as a metric of allied and partner commitment to NATO. Deployments and missions may vary in type, their level of difficulty, the danger they pose to troops,

²⁶ For a detailed list of the sources used to compile troop contributions, see the appendix.

²⁷ Gates, *Remarks by Secretary Gates at the Security and Defense Agenda, Brussels, Belgium*; Deni, "Burden Sharing and NATO's 2 Percent Goal."

or their financial cost. Alternative metrics that may account for these levels of specificity include the number of munitions expended, platforms used, sorties flown, or casualties incurred (though many may take issue with deaths and wounded as an appropriate measure). In other cases, countries may be precluded from participating in some operations based on geography or the types of platforms their militaries possess. This metric also fails to capture outcome: the ready capability of the forces deployed.

Table 1: NATO Member and Partner Troop Contribution to Afghanistan Operations (as Percentage of Total Active Duty Force)

Source: The Military Balance (IISS), NATO

Afghanistan (2002-2005)		Afghanistan (2006-2011)		Afghanistan (2012-2014)		Afghanistan (2015-2017)	
Canada	2.98%	Canada	7.14%	Georgia*	5.11%	Georgia*	4.23%
United States	1.52%	United Kingdom	4.36%	United Kingdom	4.47%	Czech Republic	1.04%
Luxembourg	0.78%	United States	3.10%	United States	4.14%	Romania	0.86%
Germany	0.64%	Netherlands	3.06%	Denmark	2.59%	Montenegro	0.85%
Denmark	0.61%	Estonia	2.47%	Latvia	2.36%	Albania	0.70%
Netherlands	0.51%	Denmark	2.31%	Romania	1.99%	Denmark	0.68%
Belgium	0.42%	Norway	2.27%	Estonia	1.95%	Croatia	0.55%
Norway	0.40%	Bulgaria	2.25%	Germany	1.85%	Germany	0.52%
Italy	0.38%	Sweden*	1.92%	Sweden*	1.76%	United States	0.50%
United Kingdom	0.36%	Latvia	1.84%	Slovak Republic	1.76%	Italy	0.45%
Spain	0.28%	Lithuania	1.78%	Poland	1.74%	Latvia	0.43%
France	0.27%	Czech Republic	1.58%	Lithuania	1.67%	Hungary	0.34%
Czech Republic	0.26%	Georgia*	1.49%	Italy	1.66%	Bulgaria	0.33%
Romania	0.25%	Germany	1.43%	Albania	1.45%	United Kingdom	0.28%
Albania	0.25%	Poland	1.40%	Bulgaria	1.41%	Lithuania	0.28%
Finland*	0.20%	Romania	1.32%	Czech Republic	1.31%	Slovak Republic	0.25%
Hungary	0.20%	Italy	1.26%	Montenegro	1.27%	Netherlands	0.24%
Turkey	0.15%	Croatia	1.17%	Croatia	1.13%	Finland*	0.21%
Slovak Republic	0.14%	Belgium	1.11%	Hungary	1.08%	Poland	0.18%
Slovenia	0.14%	Luxembourg	1.06%	Netherlands	1.07%	Norway	0.18%
Latvia	0.10%	Albania	1.03%	Norway	1.02%	Belgium	0.16%
Sweden*	0.10%	Slovak Republic	1.00%	Canada	0.96%	Turkey	0.13%
Croatia	0.09%	Slovenia	0.98%	Belgium	0.85%	Sweden*	0.12%
Poland	0.06%	France	0.97%	Luxembourg	0.78%	Luxembourg	0.11%
Greece	0.05%	Hungary	0.91%	Spain	0.65%	Slovenia	0.09%
Estonia	0.04%	Spain	0.73%	Slovenia	0.63%	Spain	0.08%
Bulgaria	0.03%	Finland*	0.39%	Finland*	0.60%	Estonia	0.07%
Portugal	0.03%	Portugal	0.37%	France	0.55%	Austria*	0.04%
Lithuania	0.03%	Montenegro	0.35%	Portugal	0.30%	Portugal	0.03%
Austria*	0.01%	Turkey	0.23%	Turkey	0.18%	Ukraine*	0.01%
Georgia*	0.00%	Greece	0.09%	Greece	0.03%	Greece	0.00%
Moldova*	0.00%	Austria*	0.01%	Ukraine*	0.02%	France	0.00%
Montenegro	0.00%	Ukraine*	0.01%	Austria*	0.01%	Moldova*	0.00%
Ukraine*	0.00%	Moldova*	0.00%	Moldova*	0.00%	Canada	0.00%

First Quartile	
Second Quartile	
Third Quartile	
Fourth Quartile	

Table 2: NATO and Partner Troop Contribution to Other Operations (as a Percentage of Total Active Duty Force)

Source: NATO, The Military Balance (IISS), United Nations, U.S. Department of Defense

NATO Kosovo Force (2002-2017)		NATO Enhanced Forward Presence (2017-2018)		UN Peacekeeping Missions (2002-2017)		Global Coalition Against ISIS (2016)	
Slovenia	2.73%	Croatia	2.73%	Slovak Republic	1.38%	Canada	1.29%
Luxembourg	2.70%	Luxembourg	2.70%	Austria*	1.20%	Norway	1.27%
Austria*	1.72%	Canada	1.72%	Finland*	0.75%	Denmark	1.16%
Finland*	1.23%	Netherlands	1.23%	Sweden*	0.72%	Italy	1.01%
Sweden*	1.17%	Slovenia	1.17%	Italy	0.62%	France	0.96%
Hungary	1.06%	Denmark	1.06%	Portugal	0.54%	Germany	0.76%
Denmark	1.04%	United Kingdom	1.04%	Spain	0.51%	Netherlands	0.55%
Czech Republic	0.95%	Iceland**	0.95%	France	0.47%	Belgium	0.50%
Italy	0.87%	Norway	0.87%	Netherlands	0.46%	Hungary	0.47%
Germany	0.85%	Germany	0.85%	Hungary	0.36%	Finland*	0.45%
Belgium	0.64%	Spain	0.64%	Norway	0.36%	United States	0.36%
France	0.63%	Albania	0.63%	Ukraine*	0.34%	United Kingdom	0.26%
Portugal	0.61%	Romania	0.61%	Croatia	0.33%	Spain	0.25%
Norway	0.54%	Poland	0.54%	Denmark	0.32%	Poland	0.21%
Greece	0.50%	France	0.50%	Belgium	0.32%	Latvia	0.19%
Slovak Republic	0.42%	Belgium	0.42%	Canada	0.30%	Estonia	0.17%
Georgia*	0.40%	Italy	0.40%	Slovenia	0.26%	Sweden*	0.12%
Estonia	0.33%	United States	0.33%	Poland	0.25%	Portugal	0.09%
Canada	0.29%	Slovak Republic	0.29%	United Kingdom	0.21%		
Spain	0.28%			Estonia	0.20%		
Poland	0.25%			Germany	0.18%		
Moldova*	0.23%			Romania	0.17%		
United Kingdom	0.22%			Moldova*	0.14%		
Netherlands	0.19%			Montenegro	0.12%		
Romania	0.16%			Bulgaria	0.12%		
Lithuania	0.15%			Turkey	0.08%		
Turkey	0.12%			Czech Republic	0.08%		
Latvia	0.11%			Greece	0.05%		
Bulgaria	0.10%			Luxembourg	0.04%		
Ukraine*	0.10%			Lithuania	0.04%		
United States	0.10%			Albania	0.04%		
Croatia	0.07%			United States	0.02%		
Albania	0.06%			Latvia	0.00%		
Montenegro	0.00%			Georgia*	0.00%		
First Quartile							
Second Quartile							
Third Quartile							
Fourth Quartile							

Table 3: NATO Member and Partner State Participation in NATO and EU Operations (2003–Present)

Source: NATO, CSDP, The Military Balance (IISS), CSIS

	NATO Operations				EU Operations									
	Baltic Air Policing	Operation Unified Protector	Operation Sea Guardian	NATO NRF/VJTF	EUFOR Concordia	Operation Artemis	EUFOR Althea	EUFOR RD Congo	EU NAVFOR Somalia	EUFOR Tchad/RCA	EUTM Somalia	EUTM Mali	EUFOR RCA	Operation Sophia
	2004 - 2018	2011	2016 - 2017	2015 - 2018	2003	2003	2004 -	2006	2008 -	2008 - 2009	2010 -	2013 -	2014 - 2015	2015 -
Albania														
Austria														
Belgium		A = 6 S = 0												
Bulgaria		A = 0 S = 1												
Canada		A = 11 S = 1												
Croatia														
Czech Republic														
Denmark		A = 4 S = 0												
Estonia														
Finland														
France		A = 33 S = 1												
Georgia														
Germany				Leader 2015										
Greece		A = 2 S = 1												
Hungary														
Iceland														
Italy		A = 16 S = 4		Leader 2018										
Latvia														
Lithuania														
Luxembourg														
Moldova														
Montenegro														
Netherlands		A = 1 S = 1		Leader 2015										
Norway		A = 6 S = 0		Leader 2015										
Poland														
Portugal														
Romania		A = 0 S = 1												
Slovak Republic														
Slovenia														
Spain		A = 6 S = 2		Leader 2016										
Sweden														
Turkey		A = 7 S = 6												
Ukraine														
United Kingdom		A = 17 S = 2		Leader 2017										
United States		A = 90 S = 1												
	A = Aircraft S = Ships													

Pre-Crisis Military Mobility

A crucial issue for NATO security is its ability to move troops, equipment, and supplies to and across the continent quickly and effectively. Its priority is demonstrated in the EU's 2017 institution of Permanent Structured Cooperation in Defence (PESCO) and the expected agenda of the 2018 NATO Summit. Acknowledging this transatlantic challenge, the United States Army Europe (USAREUR) compiles data that 'scores' European countries on their relevant infrastructure and diplomatic processes for reception, staging, and onward movement of forces. Although in a declared crisis NATO Crisis Response Measures would obviate many of the diplomatic requirements for transit, there is a significant likelihood that NATO will need to move forces in an ambiguous situation before the declaration of a crisis. The CSIS study team chose to include USAREUR's data as a metric, as it provides a useful indicator of the alliance's day-to-day readiness for defense activities in Europe. The USAREUR data uses colors to rank European states in each of the following categories for ground mobility:

APOD – AIR POINTS OF DEBARKATION

- Green: Lockheed C-5 Galaxy capable
- Amber: Boeing C-17 Globemaster III/747 capable
- Red: Lockheed C-130 and below capable

SPOD – SEA POINTS OF DEBARKATION

- Green: Roll on/Roll off (RO/RO) ships with HVY crane and staging
- Amber: RO/RO without HVY crane and/or reduced staging
- Red: No RO/RO

RAIL HEAD – RAILWAY POINTS DESIGNED

- Green: On/off load ramps support M1A2 System Enhancement Package (SEP) v2
- Amber: N/A
- Red: On/off load ramps do not support M1A2 SEP v2 and/or requires additional lift for on/off-load; limited data

ROAD SYSTEM

- Green: Supports movement of M1A2 SEP v2 on Host Nation approved routes
- Amber: N/A
- Red: Does not support movement of M1A2 SEP v2

DIPLOMATIC CLEARANCE

- Green: 0–5 work days notice required
- Amber: 6–15 work days notice required
- Red: > 15 work days notice required

The USAREUR data ranks European states in each of the following categories for air mobility:

OVER FLIGHT

- Green: Permissive
- Amber: <5 Work days
- Gray: 5–7 Work days
- Red: >7 Work days

LANDING

- SEE ABOVE

CLEARANCE WINDOW FOR TIME ON GROUND

- Green: ≥144 Hours (6 days)
- Amber: 72–<144 Hours (3–6 days)
- Gray: 48–<72 Hours (2–3 days)
- Red: <48 Hours (2 days)

Since this metric measures NATO member and partner states' preparedness and willingness to allow NATO assets to be easily transported across their borders in Europe, the United States and Canada are not measured in this dataset. Additionally, USAREUR uses a "not applicable" rating for the following landlocked European countries with regard to sea ports of debarkation (SPOD): Czech Republic, Austria, Luxembourg, Switzerland, Slovakia, Hungary, Serbia, Bosnia and Herzegovina, Kosovo, Macedonia, and Moldova. Finally, Ukraine is classified as "continually changing" in diplomatic clearance time, and thus not classified from red to green for ground mobility.

Some interesting observations emerge from the USAREUR data. For ground mobility, Europe's infrastructure is fairly well suited to U.S. Army systems and equipment, and most states perform well vis-à-vis APODs, SPODs, Road Systems, and Rail Head. Those NATO members that received the worst ratings for the infrastructure components of ground mobility—Croatia, Albania, and Montenegro—are also among its newest members and have had eight years or less to adapt. Unfortunately, diplomatic clearance times for the movement of military equipment and personnel along the ground are strikingly poor almost across the board. Of all NATO members, only the Baltic States, Poland, and Croatia have diplomatic clearance times for the movement of military equipment and personnel along the ground of five days or less. Key NATO allies such as Germany and the Netherlands require two work weeks or more for such clearance. Worse still, France requires 60 work days of clearance time for movement through its borders. USAREUR's assessment of air mobility in Europe produces more mixed results, with most states clustering in the Amber and Gray ratings for over flight, landing, and clearance windows.

The ability to quickly and seamlessly move military equipment and personnel to and across the European continent is a critical component of NATO's ability to mobilize proactively or respond to aggression. While diplomatic clearance times would shrink or be removed during wartime, improving pre-crisis mobility could improve NATO's ability to set the theater in advance of real or potential aggression, itself an important factor for deterrence. Measuring how much of Europe's infrastructure and policy has adapted to meet the continent's mobility needs demonstrates each nation's political willingness to live up to its NATO commitments and to the overall security of the alliance. Further, it is a way of demonstrating commitment to broader interoperability, security cooperation, and timely responses to military threats or aggression. In this respect, measuring cross-border mobility points in terms of the systems capable of moving through them merits inclusion as a measure of security contribution.

This measure of cross-border mobility is a useful indicator of security contributions, but it has limitations. USAREUR's data does not provide insight into the durability of routes or the throughput of each node on a daily

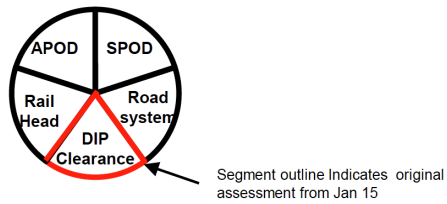
or monthly basis. Additionally, resolving the infrastructure issues that this data highlights could be costly in time and money, particularly for states with smaller economies or without the technical capacity to do so. Lastly, resolving some of the challenges is not solely, nor in some cases primarily, a NATO responsibility. The European Union has a key role in resolving the diplomatic clearance issues in particular and in promoting the construction of dual-use transportation infrastructure that serves civilian needs but can support military mobility in a crisis. The EU and NATO are working together to achieve maximum complementarity in these areas, a new area of institutional cooperation.

Table 4: Pre-Crisis Military Mobility Data Summary

	Military Mobility Rankings (Ground)
	Green
APOD	All Countries
SPOD	20 Countries (Denmark, Norway, Sweden, Finland, Estonia, Latvia, Lithuania, Poland, Germany, Netherlands, Belgium, United Kingdom, Croatia, Slovenia, Italy, Portugal, Spain, Greece, Turkey, France)
Road System	28 Countries (Norway, Sweden, Finland, Estonia, Latvia, Lithuania, Poland, Germany, Czech Republic, Austria, France, Belgium, Luxembourg, United Kingdom, Netherlands, Denmark, Portugal, Spain, Slovenia, Croatia, Slovakia, Romania, Hungary, Moldova, Ukraine, Turkey, Bulgaria, Greece)
Dip. Clearance	5 Countries (Estonia, Latvia, Lithuania, Poland, Croatia)
Rail Head	22 Countries (Norway, Denmark, Estonia, Latvia, Lithuania, Poland, Germany, Czech Republic, Austria, France, Belgium, Netherlands, United Kingdom, Portugal, Spain, Italy, Slovenia, Slovakia, Greece, Romania, Hungary, Luxembourg)
	Amber
APOD	None
SPOD	7 Countries (Iceland, Montenegro, Albania, Bulgaria, Romania, Ukraine, Georgia)
Road System	2 Countries (Italy, Georgia)
Dip. Clearance	19 Countries (United Kingdom, Luxembourg, Belgium, Netherlands, Germany, Austria, Czech Republic, Denmark, Spain, Italy, Slovenia, Montenegro, Albania, Greece, Slovakia, Hungary, Moldova, Romania, Bulgaria)
Rail Head	None
	Red
APOD	None
SPOD	None
Road System	3 Countries (Iceland, Montenegro, Albania)
Dip. Clearance	8 Countries (Iceland, Norway, Sweden, Finland, France, Portugal, Turkey, Georgia)
Rail Head	11 (Iceland, Sweden, Finland, Croatia, Ukraine, Georgia, Turkey, Montenegro, Albania, Bulgaria, Moldova)

**Figure 5: Northern Europe
Ground Mobility**

Source: United States Army Europe



**Figure 6: Southern Europe
Ground Mobility**

Source: United States Army Europe

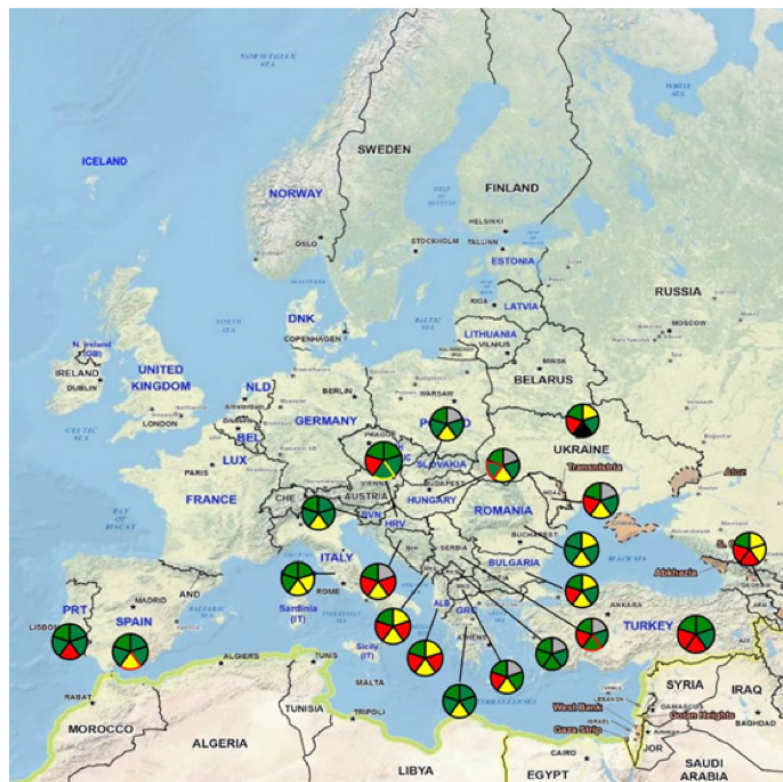
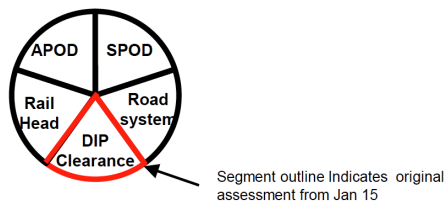


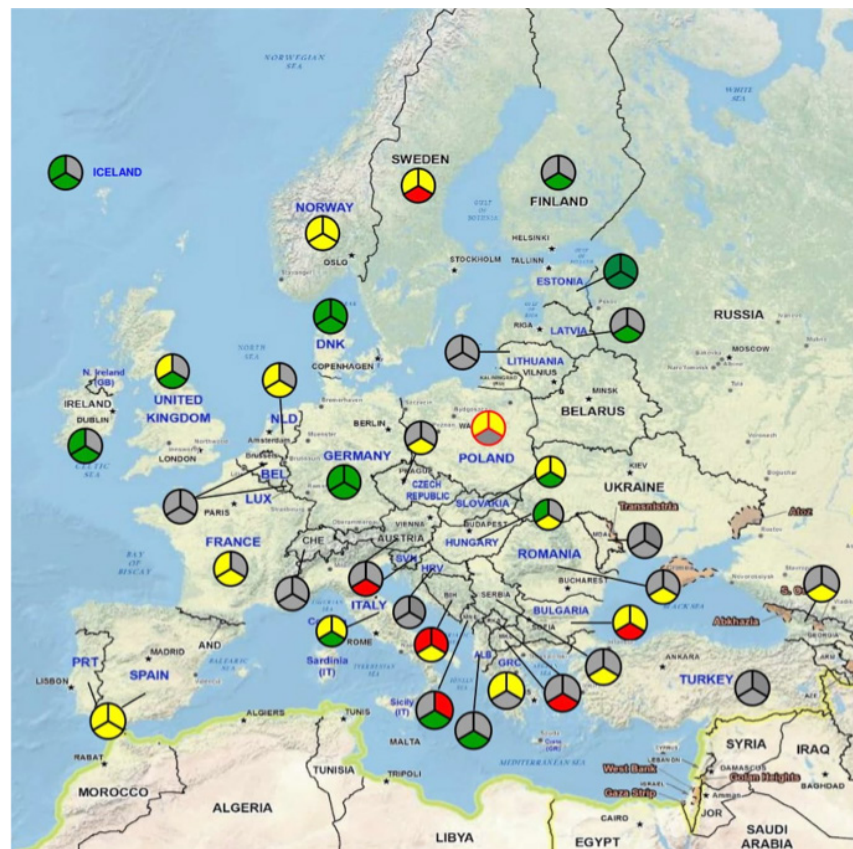
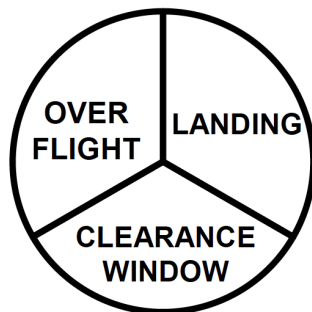
Table 5: Pre-Crisis Air and Diplomatic Military Mobility

	Military Mobility Rankings (Air)
	Green
Over Flight	5 Countries (Iceland, Denmark, Estonia, Hungary, Germany)
Landing	3 Countries (Estonia, Denmark, Germany)
Clearance Window	12 Countries (Iceland, Denmark, Germany, Estonia, Hungary, Montenegro, Albania, Italy, Latvia, Slovakia, United Kingdom, Finland)
	Amber
Over Flight	12 Countries (United Kingdom, Norway, Sweden, Netherlands, France, Spain, Portugal, Italy, Poland, Slovakia, Bulgaria, Greece)
Landing	9 Countries (Norway, Sweden, Spain, Portugal, Poland, Slovakia, Italy, Greece, Bulgaria)
Clearance Window	8 Countries (Norway, Netherlands, France, Spain, Portugal, Romania, Georgia, Czech Republic)
	Gray
Over Flight	15 Countries (Finland, Latvia, Lithuania, Czech Republic, Moldova, Georgia, Turkey, Romania, Montenegro, Albania, Croatia, Austria, Belgium, Luxembourg, Slovenia)
Landing	19 Countries (Iceland, United Kingdom, Belgium, Luxembourg, Netherlands, France, Czech Republic, Austria, Croatia, Hungary, Moldova, Albania, Romania, Georgia, Turkey, Lithuania, Latvia, Finland, Slovenia)
Clearance Window	8 Countries (Belgium, Luxembourg, Croatia, Lithuania, Moldova, Turkey, Greece, Poland)
	Red
Over Flight	0 Countries
Landing	1 Country (Montenegro)
Clearance Window	4 Countries (Sweden, Austria, Bulgaria, Slovenia)

Source: United States Army Europe



Source: United States Army Europe

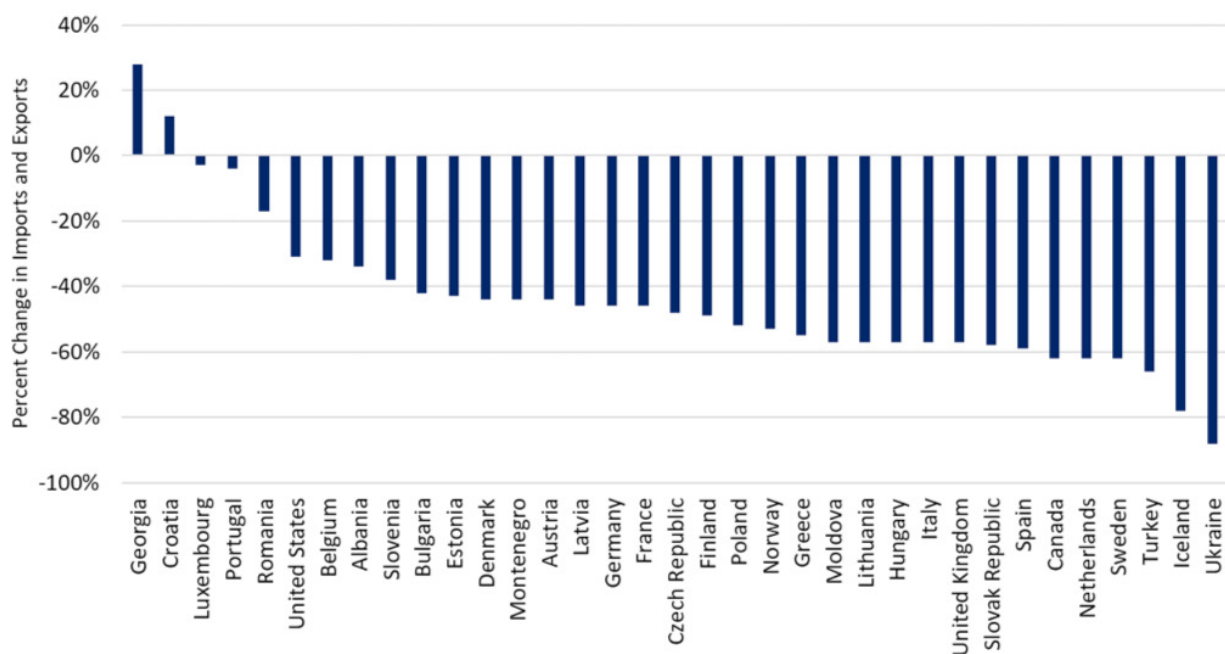


Trade with Sanctioned Competitors

Most measures of security contribution focus on investment. But states also forego economic gains in support of common security. The effect of enforcing agreed-upon sanctions against a potential adversary is one metric that could be used to measure this sacrifice. When one state imposes sanctions on another, that state is inflicting economic harm on itself as well as the target.²⁸ Seen in this light, sacrificing trade in order to advance the alliance's goals is a form of security contribution.

To measure the economic sacrifice made by NATO members and partners in support of economic sanctions policy, this report examines the trade relationships of each country with Russia and Iran. The Russian Federation has historical and sizable economic ties with many European nations. After Russia's 2014 illegal annexation of Crimea and aggression in Eastern Ukraine, EU members and other Western states (including the United States and Canada) imposed sanctions on Russia. In the case of Iran, decades of sanctions were ramped up following reports from the International Atomic Energy Agency detailing Iranian nuclear activity. Between 2010 and 2012, many Western nations worked together to develop and impose deep-cutting sanctions on Iran. Following the July 2015 signing of the Joint Comprehensive Plan of Action (JCPOA) on Iran's nuclear program, trade began to increase.

Figure 9: Percent Change in Trade with Russia, 2012–2016



28 Valerie L. Schwabach, "Sanctions as Signals: A Line in the Sand or a Lack of Resolve?," in *Sanctions as Economic Statecraft*, ed. Steve Chan and A. Cooper Drury (London: Palgrave Macmillan, 2000), 191.

Examining year-to-year trade data between NATO and EU members with Iran and Russia shows clear drops in trade activity surrounding the imposition of sanctions. In the case of Russia, many states were already slowing their economic activity before 2014, but these levels dropped steadily after the imposition of sanctions. The percent change over time in the years surrounding sanctions (2012 to 2016 for Russia) is another way to show the economic costs borne by allies and partners for these decisions. Unsurprisingly, Ukraine had the biggest drop, at 88 percent. Iceland, Turkey, Sweden, Canada, and the Netherlands followed, all with drops over 60 percent (see Figure 9).

Figure 10: Percent Change in Trade with Iran, 2009–2013²⁹

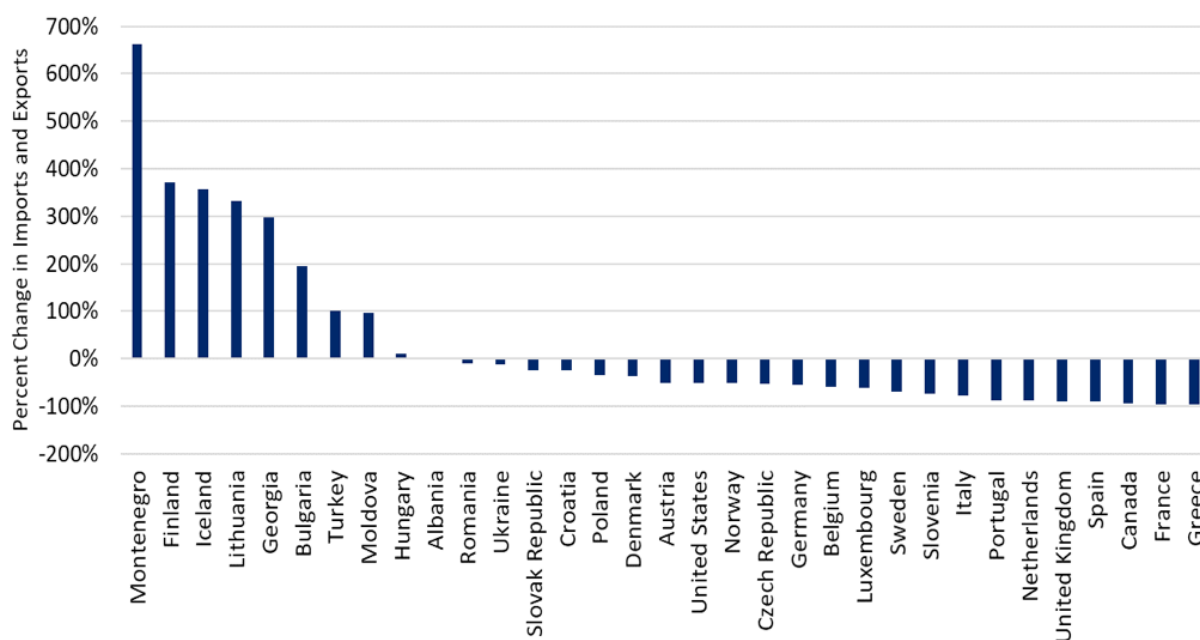
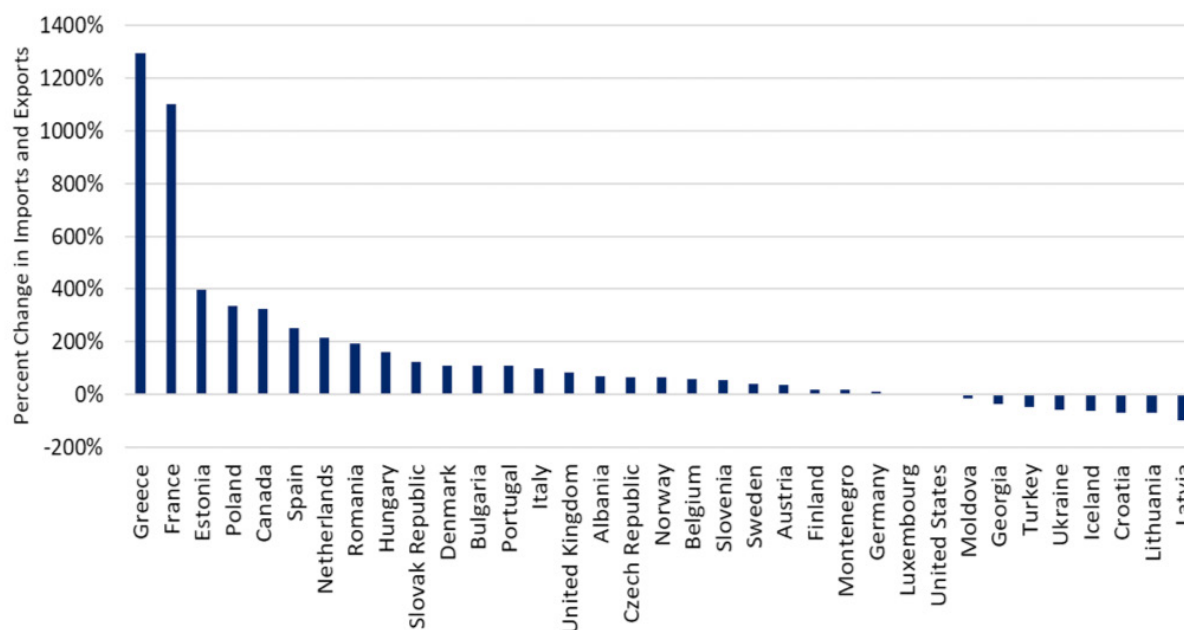


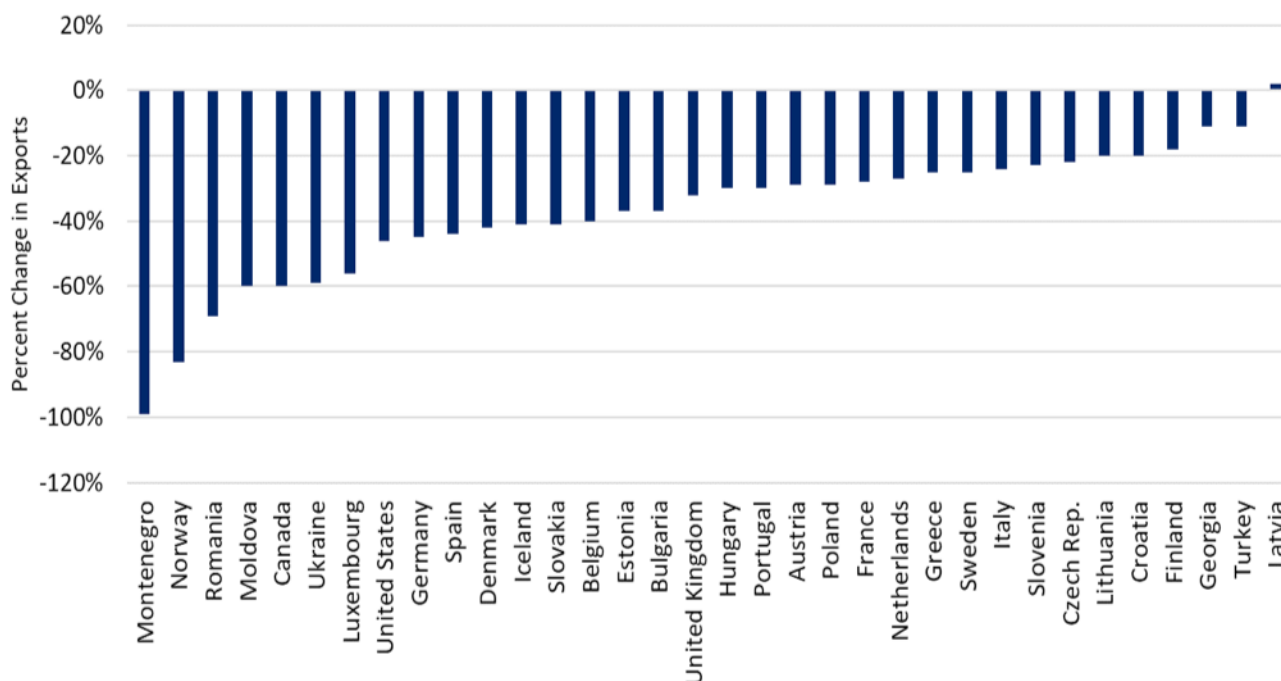
Figure 11: Percent Change in Trade with Iran, 2013–2016



²⁹ Dataset does not include Latvia, which saw a +20,000 percent increase in trade volumes, or Estonia, which saw a +2,000 percent increase.

The year-to-year trade data with Iran also reveals a sharp drop in economic activity with NATO members in and around 2011 (see Figure 10). Trade activity picks up again in 2015, as shown in Figure 11 and Figure 15, following the conclusion of the JCPOA, which lifted many of the prior sanctions when it came into effect in October 2015. Measuring the change over time surrounding the imposition and lifting of these sanctions supports the finding that NATO members and partners paid an economic cost for sanctions policy. Of the countries studied, the majority showed drops in the percent change over time surrounding 2011 (in a 2009 to 2013 window), and growth surrounding 2015 (from 2013 to 2016).

Figure 12: Sanctions Snapshot, Russia 2014³⁰



By further narrowing the time window, one can see more detailed trade flows surrounding the imposition of sanctions. Month-to-month values for exports to Iran and Russia follow the same trends as the year-to-year combined import/export data. Figure 12 shows the calculated percent change over time in exports to Russia between March 2014 and December 2015 with drops in export values for all countries included in the study other than Latvia and Albania.³¹ Montenegro, Norway, Romania, Moldova, and Canada saw the largest percent decrease over time during this period, ranging from 60 percent to 99 percent drops. It is important to note that Russia imposed countersanctions in retaliation for the extensive sanctions regime, which further contributed to trade flow shifts.

³⁰ Albania not depicted due to a lack of reported monthly data.

³¹ Data for Latvia showed a 2 percent increase. No data for Albania was available for this period.

Figure 13: Sanctions Snapshot, Iran 2010³²

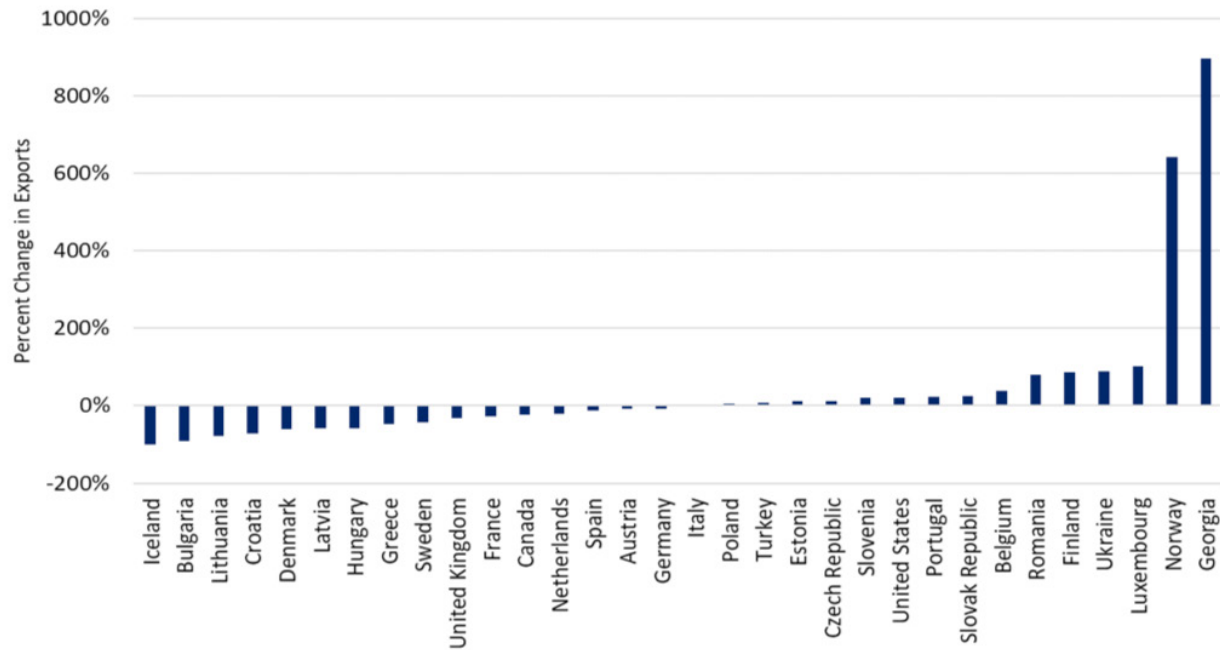
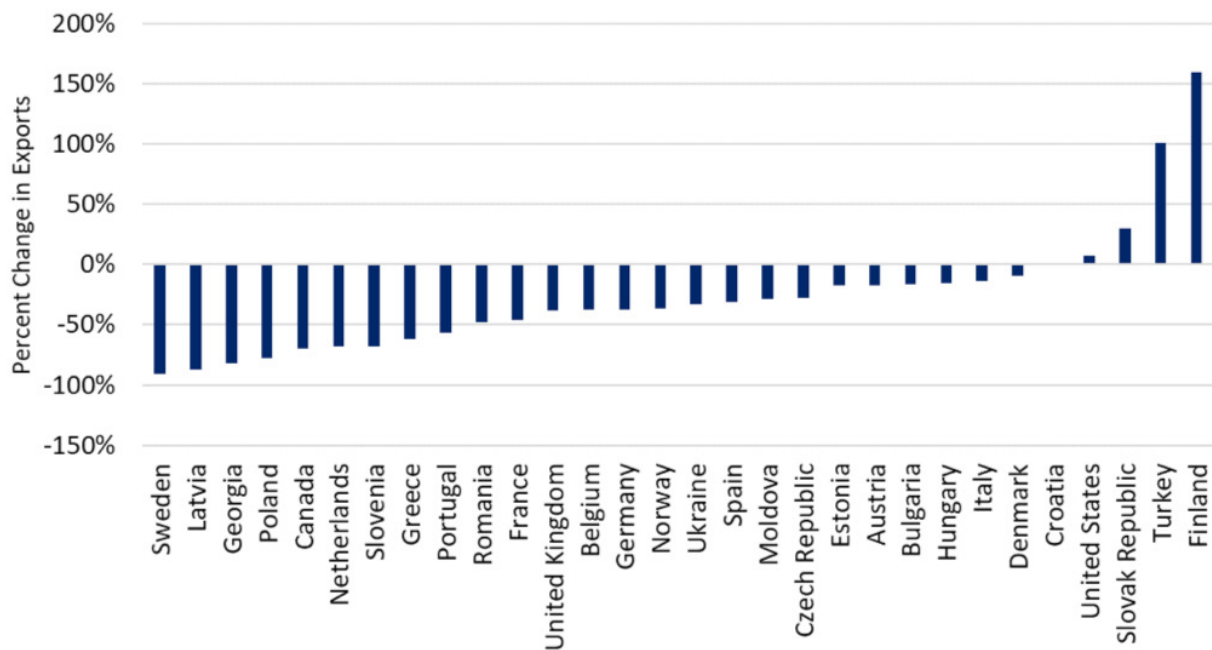


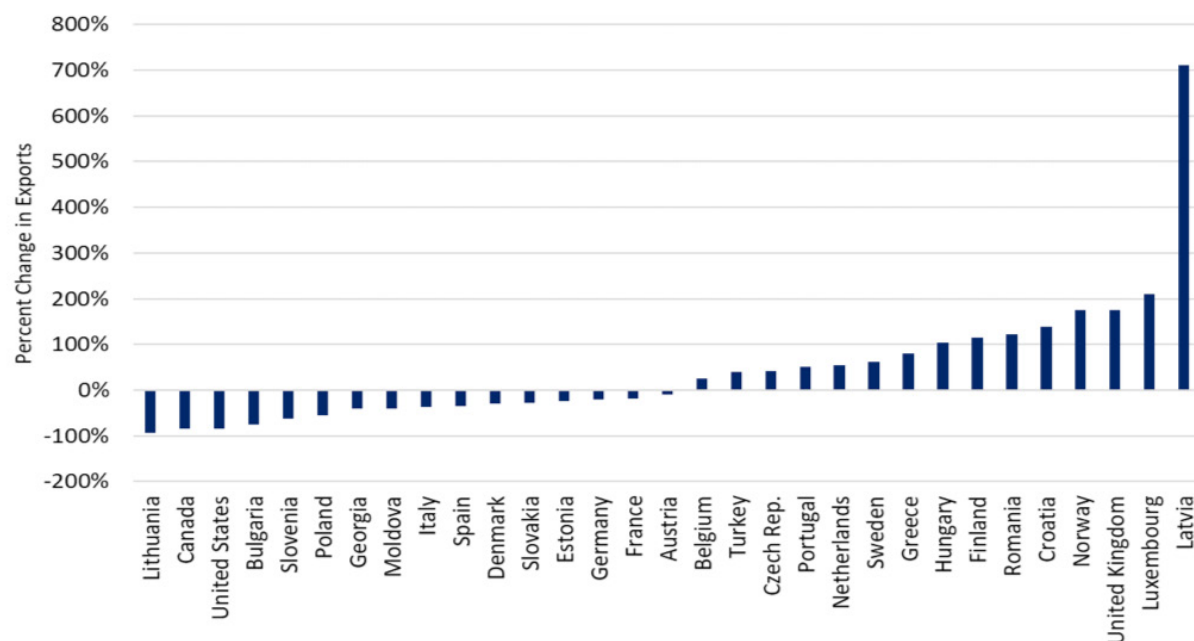
Figure 14: Sanctions Snapshot, Iran 2011–2012³³



32 Dataset does not include Moldova, which saw a +17,000 percent increase in trade volumes. Albania and Montenegro are not depicted due to a lack of reported monthly data.

33 Albania, Iceland, and Montenegro are not included due to a lack of reported monthly data.

Figure 15: JCPOA Snapshot, 2016³⁴



Since sanctions on Iran have happened over the course of many years this study examines two specific windows around sanctions imposition—from June 2010 to October 2010 (Figure 13) and from November 2011 to March 2012 (Figure 14). The second period, which followed the imposition of multiple rounds of sanctions at the end of 2011, showed a drop in trade between Iran and the majority of NATO members and partners. Results are more mixed for the first period, which followed the 2010 UN Security Council sanctions on Iran, with more states reporting positive changes over time than negative. One drawback of using month-to-month data is that there is sometimes substantial variation in trade values from one month to another, likely due to isolated but sizable trade deals or simply the ebbs and flows of monthly exports. This may explain the mixed results of month-to-month change over time in trade with Iran during this first period. Alternatively, the change may be explained by issues with data specificity, discussed further below.

While the available trade data shows certain trends suggestive of economic sacrifice resulting from sanctions imposition, there are several shortcomings of this metric. One limiting factor of the data is its scope: the year-to-year data considers all imports and exports and the month-to-month data is only exports. While these measurements help to give a broad picture of trade activity during the periods studied, it fails to account for the specific targets of sanctions. Over the course of the sanctions on Iran, many targeted the country’s major banks and oil industry.³⁵ Trade data for all goods, used in this study, may not show the economic costs of sanctions on these entities as well as industry-specific economic data would. Similarly, in the case of Russia, much of the trade with the EU is in energy. Due to the reliance on Russian resources like oil and natural gas for energy production, the industry was not targeted as heavily through the 2014 sanctions. This metric does not help to measure a state’s willingness to reduce energy dependence on Russia.

Another issue, common across many economic measurements, is its reliance on a counterfactual. Without controlling for other factors, and absent deeper research, it is impossible to attribute changes in trade values entirely to sanctions.

34 Albania, Iceland, Montenegro, and Ukraine are not included due to a lack of reported monthly data.

35 “Timeline: Sanctions on Iran,” *Al Jazeera*, October 16, 2012, <https://www.aljazeera.com/news/middle-east/2012/10/20121016132757857588.html>.

Additionally, the sanctions were not from NATO but imposed from the EU and the United States. Some politicians and analysts might reject conflating EU and NATO objectives; however, this overlooks that the EU and United States have a security partnership themselves. Finally, it is also important to note that there are significant differences between the economies of NATO members and partners—size, industries, historic factors, and geographic location all play roles in shaping economic patterns. Developing a single metric to measure economic sacrifice is an attractive idea but unlikely to account for all the nuances of bilateral trade.

Responding to Mediterranean Instability: Average Refugee Intake

Conflict and instability to Europe's south—in North Africa and in Syria—has generated population movements into Europe with which our allies have struggled. Projecting stability in this region has increasingly become a priority for the alliance, particularly since the outbreak of the Syrian civil war and the onset of the refugee crisis.³⁶ NATO has launched or adapted maritime security exercises and missions in the Mediterranean, including Operation Sea Guardian, which supports the European Union's Operation Sophia.³⁷ Operation Sophia has primarily dealt with managing the illegal flows of refugees and combating human trafficking through the Mediterranean. Yet, Europe remains—on average—the bearer of the world's largest refugee burden as classified by the United Nations High Commissioner for Refugees.³⁸ Some NATO members are bearing a particularly significant burden from the refugee crisis. Managing the crisis is a significant security investment for them and Europe as a whole.

This metric examines the number of refugees each state has taken in since 2013. The research team collected data on refugee flows from the United Nations High Commissioner for Refugees. Figure 16 displays the raw data—the number of refugees or people in refugee-like situations each country accepted between 2013 and 2016. Figure 17 uses population data from the World Bank to display burden acceptance as a proportion of each receiving country's population. It calculates the number of refugees per country per 100,000 people of that country's population.³⁹

Examining each of the graphics generated for this metric, two different pictures emerge. Starting with Figure 16, it is clear that Turkey bears by far the largest burden of refugee flows—particularly for those fleeing the wars in Iraq and Syria.⁴⁰ With an average of just under 2 million refugees or people in refugee-like situations arriving in Turkey each year, they accept more than five times the next closest five points of asylum—Germany, the United States, France, Sweden, and Canada, respectively.

36 Ruben Diaz-Plaja, "Projecting Stability: An Agenda for Action," *NATO Review*, March 13, 2018, <https://www.nato.int/docu/review/2018/Also-in-2018/projecting-stability-an-agenda-for-action-nato-partners/EN/index.htm>.

37 NATO Public Diplomacy Division, *Warsaw Summit Key Decisions*, February 2017, https://www.nato.int/nato_static_fl2014/assets/pdf/pdf_2017_02/20170206_1702-factsheet-warsaw-summit-key-en.pdf; EUNAVFOR MED Operation Sophia, "About Us," <https://www.operationsophia.eu/about-us/>.

38 UN Data, *Table with Data on Refugees*, <http://data.un.org/Data.aspx?d=UNHCR&f=indID%3AType-Ref>

39 The World Bank, *Population, Total*, https://data.worldbank.org/indicator/SP.POP.TOTL?year_high_desc=true.

40 UN Data, *Table with Data on Refugees*.

Figure 16: Average Refugees per Year, 2013–2016
Figure 17: Average Refugees per 100,000 People per Year, 2013–2016⁴¹

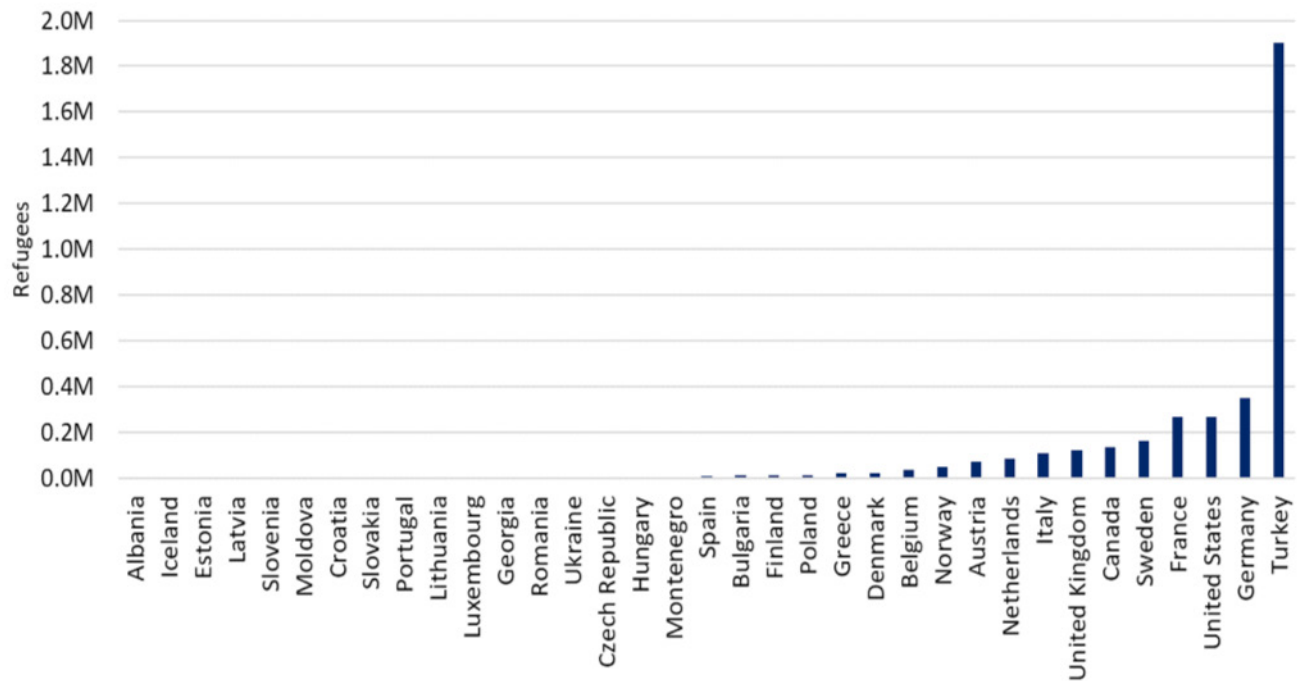
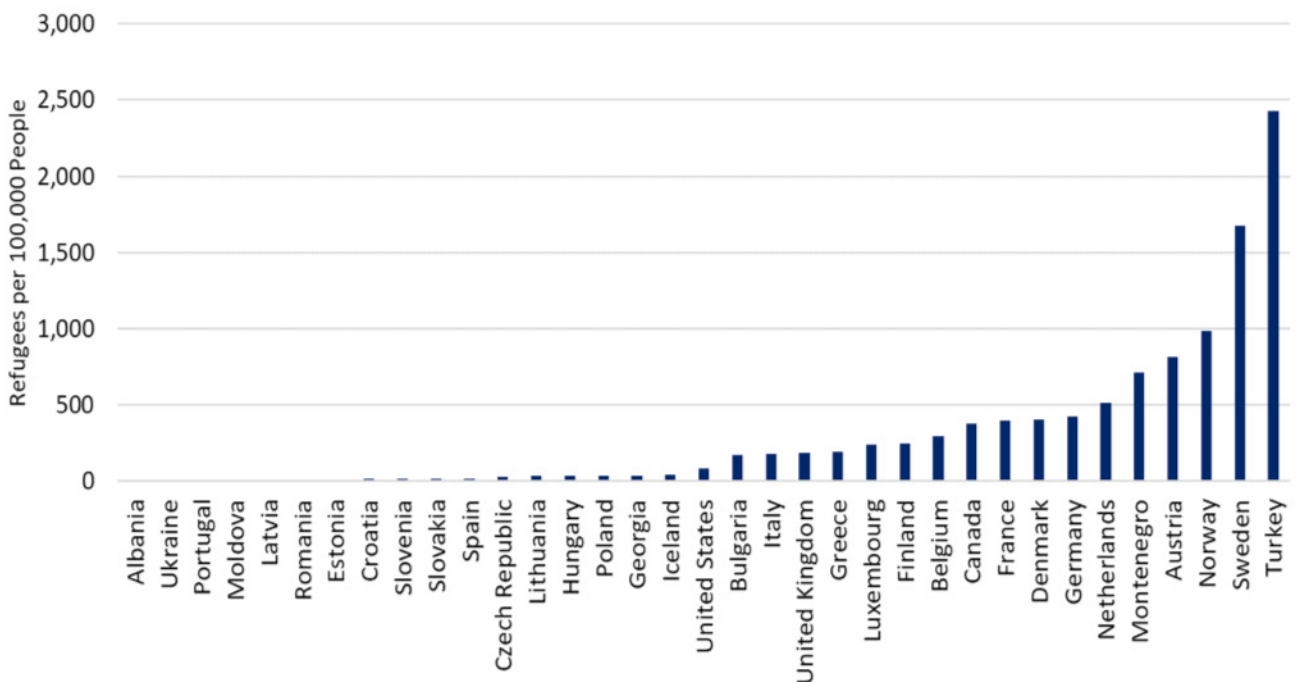


Figure 17: Average Refugees per 100,000 People per Year, 2013–2016



Although Turkey still tops the chart in Figure 17, which measures the number of refugees or people in refugee-like situations accepted adjusted proportionately for the receipt nation’s population size, the remainder of

41 Data based on sum of total refugees and “people in refugee-like situations” as classified by UNHCR.

the picture shifts substantially. For instance, the United States drops from 3rd to 18th—just above Iceland. Conversely, Norway jumps to 3rd from 11th, while Montenegro jumps to 5th from 19th. Additionally, examining the refugee flows both in terms of sheer volume and as a ratio to population demonstrates that it is not only the Southern European or Mediterranean-bordering states that bear the only burden of the refugee crisis. Rather, Central and Northern Europe have shouldered substantial burden themselves.

Some might argue that this reflects a failure of policy—whether unsuccessfully dealing with the conflicts in the Middle East and North Africa or an inability to secure Europe’s external borders. But the fact remains that the human manifestation of this insecurity exists, that European allies are dealing with these consequences, and that this burden is not equally shared.

The refugee burden metric is a useful addition to the debate over security contributions. A willingness to proportionately share the burden of refugee flows and manage the attendant security issues demonstrates a commitment to the stability of Europe. Yet, as with the other measurements, there are shortcomings to this measurement. As presented in this report, the metric does not account explicitly for costs associated with being a state that serves as a migration route for those seeking asylum elsewhere in Europe—particularly the Balkans, Italy, and Greece. Likewise, it does not account for costs associated with refugees upon arrival, how each state manages refugees, or the duration of stay. Yet, given that each of these is a collection or accounting problem, it is possible to remedy some of these issues—particularly through multilateral or supranational institutions like the European Union or the United Nations. Collecting more detailed data would allow these institutions to better understand the distribution of burden across the continent. Consistent, thorough, and transparent data collection would have positive implications for NATO security as well. Even with perfect data, however, the acceptance of refugees is only indirectly linked to meeting NATO security priorities. Some analysts might reject its use as a measure of security investment on these grounds, even in a supplementary way.

Table 6: Average Refugees per 100,000 People (2013–2016)

< 100	18 countries (Albania, Ukraine, Portugal, Moldova, Latvia, Romania, Estonia, Croatia, Slovenia, Slovakia, Spain, Czech Republic, Lithuania, Hungary, Poland, Georgia, Iceland, United States)
100–999	15 countries (Bulgaria, Italy, United Kingdom, Greece, Luxembourg, Finland, Belgium, Canada, France, Denmark, Germany, Netherlands, Montenegro, Austria, Norway)
> 1000	2 countries (Sweden, Turkey)

Data Limitations

Today, there are significant limitations on available unclassified data as well as large data and definitional disparities across nations, all of which the CSIS study team encountered when constructing this assessment. Problems arose due to the unreliability (or complete lack) of information reported by member states, as well as maintaining a uniform approach to certain measurements given varying definitions of terms like “readiness” or even “defense.” The study team identified several additional metrics that NATO should explore but that require uniform new unclassified data collection and assessment approaches.

Interoperability. Interoperability is a necessary component of an alliance, as it allows each actor to work in concert with others. Measuring the level at which each NATO member’s and partner’s capabilities are interoperable would demonstrate the ability of that country to actively contribute, particularly in wartime. One of the issues that presented itself when collecting data for this metric was that levels of interoperability are typically self-reported. This, combined with the fact that there is no standard definition for NATO interoperability, makes it difficult to rate a country’s performance.

Intelligence Spending. Comprehensive intelligence gathering and dissemination is a vital component of supporting security missions. NATO operations around the world rely on timely intelligence to be effective. According to the Atlantic Council, “at least three European nations (the UK, France, and Germany) have significant intelligence-gathering capabilities that complement US intelligence efforts.”⁴² Given the importance of intelligence for military operations, it makes sense to measure *all* NATO member states’ efforts toward intelligence gathering as a means of measuring contribution to the alliance. Due to the high levels of secrecy surrounding actual intelligence-gathering efforts, measuring government spending on intelligence efforts could be one way to approach this metric. Unfortunately, available data is sparse. Although several member states release cursory data on intelligence spending, others release no data at all, making this metric impossible to complete though open source research.

Readiness. Like interoperability, understanding a country’s military readiness is important for measuring its ability to meaningfully contribute to an alliance in the face of conflict. NATO has no public data on readiness, and developing a universal definition of readiness that could be assessed with available data was the main barrier for including this metric. The inability to quantify how exercises contribute to readiness, and limited data on equipment further impeded the study team’s desire to accurately portray and compare individual states’ readiness. NATO collects significant data related to active duty troop numbers, airframes, and vessels, participation in operations, and capability targets. NATO should publish unclassified data along these lines.

Several other metrics considered for inclusion by the study team were the willingness and ability to host NATO forces, levels of homeland security spending, and investments in certain civilian infrastructure that could be utilized for military purposes. These were likewise beyond the reach of our analysis for many of the reasons detailed above.

42 Hans Binnendijk and Magnus Nordenman, *NATO’s Value to the United States: By the Numbers*, Issue Brief (Washington, DC: Atlantic Council Scowcroft Center for Strategy and Security, 2018), 4, http://www.atlanticcouncil.org/images/NATO_s_Value_WEB.pdf.

Conclusion

The July 2018 NATO Summit in Brussels and the action agenda that follows from it provide a fresh opportunity to re-imagine the security investment debate. The almost singular focus on meeting the NATO pledge of spending 2 percent of GDP on defense obscures many of the true challenges to growing national and collective capability and to strengthened transatlantic security. A country such as Denmark, for example, has consistently been in the top quartile of contributions to military operations in Afghanistan and elsewhere, ranks high on military mobility, and has sacrificed significant trade with Russia as a result of sanctions. All of these contributions come at a price of less than 2 percent of GDP, yet by most every account Denmark makes the sort of contributions that NATO needs. More analytic rigor and a focus on outcomes rather than inputs would substantially advance the quality of NATO's capability development, provide a solid, agreed basis for discussing needed national level improvements, and generate the appropriate political pressure inside the alliance and with national legislative and executive decisionmakers.

NATO itself has recognized the limitations of only measuring a member state's contributions using the 2 percent of GDP and 20 percent equipment expenditure metrics. In a 2011 study, the alliance placed metrics into five categories: Input Metrics, Investment Output Metrics, Usability Output Metrics, NATO Output Metrics, and Deployment Output Metrics.⁴³ According to a report from Carnegie Europe, the index developed by NATO has become an effective tool, used regularly to create political pressure inside the alliance.⁴⁴ Unfortunately, the findings are classified and the metrics are unavailable to the public. The same report suggests that these metrics may not be publicly reported because the gaps they reveal would embarrass underperforming members.

Yet measurements of allied and partner contributions ultimately cannot remain in the dark. The political nature of the discourse around security spending, amply demonstrated in the American domestic debate, requires the creation of a credible set of measures that NATO and its constituent stakeholders can assess and display to their publics. This report seeks to jump-start a transatlantic conversation around how to approach this challenge. It assessed seven possible metrics for assessing security contributions: 2 percent of GDP for defense, 20 percent of defense spending for equipment, security assistance spending, troop contributions to military operations, pre-crisis military mobility, trade with sanctioned adversaries, and average refugee intake. Each presents its own strengths and weaknesses. Although the areas where the metrics excelled are different, many of the weaknesses identified involve the lack of clear, comprehensive data.

The CSIS study team ultimately arrives at four major conclusions about measures of European security investment:

- Given the state of analysis, and particularly the lack of data transparency across the alliance, it is difficult today to confidently measure states' contributions to NATO.
- Meeting the goal of spending 2 percent of GDP on defense is an insufficient measure of security commitment and capability. The same is true for the threshold of spending 20 percent of defense resources on equipment. Both measures can send powerful signals of commitment to the alliance, but in some cases those signals may add more noise than clarity.

43 NATO Joint Analysis and Lessons Learned Centre, *Motivating Improved Contributions to the Alliance: Defence Measurements* (Lisbon: JALLC, 2011), http://www.jallc.nato.int/products/docs/factsheet_defence_metrics.pdf.

44 Techau, *The Politics of 2 Percent: NATO and the Security Vacuum in Europe*.

- A better approach is to build an array of metrics. Each metric examined in this report is helpful for better understanding how and where member states contribute, but they are strongest when considered together. Much useful data is collected by NATO but is not released publicly. NATO officials have suggested that the alliance collect a variety of useful data. Publicly released data, however, is scarce. Better data standards and improved data releasability would further expand the range of credible measures NATO could use to publicly communicate allied and partner contributions.
- In particular, there is a vital need for publicly available output measures of transatlantic security. NATO's recent "Four 30s" initiative is a positive step in this direction. It sets a collective capability goal for the alliance of being able to deploy 30 battalions, 30 air squadrons, and 30 warships in 30 days. NATO should build on this initiative to inject more unclassified output measurement into its discussion of contributions. Priority output measures include deployability; sustainability; days on deployment; and fulfillment of NATO capability targets.

Appendix

FURTHER INFORMATION ON SELECT METRICS

SECURITY ASSISTANCE EXPENDITURE AS A SHARE OF GDP

The CSIS study team defined security assistance expenditure as “spending outside of defense budgets aimed at capacity building, conflict prevention, and stabilization initiatives abroad anticipated to *directly* contribute to security.” No funds from defense budgets were counted. Included within that metric was the following:

Peacekeeping, stabilization, crisis prevention, crisis management

- post-conflict stabilization;
- special monitoring missions (through the Organization for Security and Cooperation in Europe, OSCE);
- de-mining;
- preventive measures, including funds to NGOs focused on child soldiers.
- Excluded:
 - election monitoring;
 - democracy-promotion activities, except toward developing security institutions and rule of law;
 - broad, generic humanitarian aid, including generic migration and refugee aid;
 - evacuations and emergency assistance for nationals abroad.

Development targeted at law and order and defense institutions

- support, training, and/or capacity building of foreign militaries, emergency responders, and cyber security entities, to include e-police services;
- efforts increasing transparency of the justice system;
- anti-corruption efforts targeted at justice or security sectors;
- Excluded:
 - domestic generic cyber security;
 - public safety funds outside of a conflict and stabilization context;
 - generic resiliency support, for example, funds for hospitals;
 - generic development, good governance, e-governance, or civil society funds;
 - generic anti-corruption programs;
 - programs raising awareness among youth in these areas.

Multilateral cooperation dedicated to these efforts

- Excluded:
 - generic contributions to multilateral organizations (e.g., UN, OSCE, International Atomic Energy Agency), as these may be multi-purpose.

Counterterrorism

- Excluded: funding to combat drug trafficking.

Nonproliferation

Public and multilateral research and knowledge management on security, disarmament, and non-proliferation

- Excluded:
 - funding for national think tanks;
 - conferences.

TROOP CONTRIBUTIONS AS A SHARE OF TOTAL ACTIVE DUTY FORCE

The CSIS Study team sought to highlight the contributions of the countries in our sample to NATO, European Union, United Nations, and member missions in terms of the number of troops deployed. Where these numbers could not be obtained, or where not applicable, the team measured a country's contributions by weapons platform, participation, or other forms of assessment. The two primary sources used for data collection for this metric were The World Bank for population data and *The Military Balance* for deployment numbers. However, various other sources were utilized to fill gaps where necessary.

NATO OPERATIONS

Afghanistan

- 2002–2006 – Military Balance
- 2007–2017 – NATO placemats, ISAF, and RSM
- Afghanistan data includes troop contributions to the NATO-led International Security Assistance Force (International Security Assistance Force, ISAF), the U.S.-led Operation Enduring Freedom, and the subsequent NATO-led Resolute Support Mission. The four periods identified by the CSIS study team were based around significant mission/operational changes in the conflict.
- Alternative measures for U.S. troop contributions may be found in: Amy Belasco, *Troop Levels in the Afghan and Iraq Wars, FY2001–FY2012: Cost and Other Potential Issues*, CRS Report No. R40682 (Washington, DC: Congressional Research Service, 2016), <https://fas.org/sgp/crs/natsec/R40682.pdf>.

Kosovo

- 2002–2012 – Military Balance, with some data provided as estimates or as the average over a given interval

NATO Enhanced Forward Presence

- Utilized only reported troops numbers, did not account for vehicles or other measures.
- NATO Public Diplomacy Division, “NATO’s Enhanced Forward Presence,” Factsheet, November 2017, https://www.nato.int/nato_static_fl2014/assets/pdf/pdf_2017_11/1711-factsheet-efp.pdf.

UN Peacekeeping Missions

- Data from United Nations Peacekeeping, Troop and Police Contributors page
- Numbers from “Contributions by country” document of December of each year from 2002–2017
- Total value recorded includes police, military experts on mission, and troops
- United Nations Peacekeeping, “Troop and Police Contributors,” <https://peacekeeping.un.org/en/troop-and-police-contributors>.

Global Coalition against ISIS

- Combined total personnel reported—includes all individuals listed in report. No equipment or other measures were included
- Kathleen J. McInnis, *Coalition Contributions to Countering the Islamic State*, CRS Report No. R44135 (Washington, DC: Congressional Research Service, 2016), <https://fas.org/sgp/crs/natsec/R44135.pdf>.

NATO Baltic Air Policing

- Lithuanian Armed Forces, “NATO Air – Policing Mission,” January 16, 2018, http://kariuomene.kam.lt/en/structure_1469/air_force/nato_air_-_policing_mission.html.

Operation Unified Protector

- No troop numbers were reported. Instead, aircraft and ships were counted. The source notes: “Numbers of assets should be taken as indicative.”

- Claire Taylor, *Military Operations in Libya*, Standard Note: SN/IA/5909 (London: Library of the House of Commons, October 2011), <https://www.files.ethz.ch/isn/145364/SN05909.pdf>.

Operation Sea Guardian

- Information on participation in OSG obtained from NATO press releases and other news sources. Not all lists were identical, so any mention of a country participating was included in the CSIS data.
- “NATO Operation Sea Guardian Kicks Off in the Mediterranean,” *Hurriyet Daily News*, November 10, 2016, <http://www.hurriyetaidailynews.com/nato-operation-sea-guardian-kicks-off-in-the-mediterranean-105981>; NATO Allied Maritime Command, “NATO’s Operation Sea Guardian ‘Shape Waters’ of Western and Central Mediterranean,” March 6, 2018, <https://mc.nato.int/media-centre/news/2018/nato-operation-sea-guardian-shape-waters-of-western-and-central-med.aspx>; NATO Allied Maritime Command, “Operation Sea Guardian Patrols the Eastern Mediterranean,” November 1, 2017, file:///C:/Users/ALinder/Downloads/171031_MARCOM_PAO_NU_NR_OSG_Patrols_the_Eastern_Mediterranean%20(1).pdf; NATO Allied Maritime Command, “NATO Maritime Task Group in Western Mediterranean for Operation Sea Guardian,” June 1, 2017, <https://mc.nato.int/media-centre/news/2017/nato-maritime-task-group-in-western-mediterranean-for-operation-sea-guardian.aspx>; Meghan Jacques, “HMCS Charlottetown Supports NATO’s Operation Sea Guardian,” *The Maple Leaf*, 2017, <https://ml-fd.caf-fac.ca/en/2017/11/7905>; “Dutch Navy Amphibious Ship Joins NATO Operation Sea Guardian,” *Navaltoday.com*, April 3, 2018, <https://navaltoday.com/2018/04/03/dutch-navy-amphibious-ship-joins-nato-operation-sea-guardian/>; German Federal Foreign Office, “Germany Participates in New NATO Maritime Operation Sea Guardian,” September 30, 2016, <https://www.auswaertiges-amt.de/en/aussenpolitik/internationale-organisationen/uebersicht-node-nato/160930-sea-guardian/283920>.

NATO Response Force (NRF)/Very High Readiness Joint Task Force (VJTF)

2015

- Headquarters, 1 (German/Netherlands) Corps – 1GNC, “NATO Response Force Fact Sheet,” <https://1gnc.org/the-nato-response-force/>; Headquarters, 1 (German/Netherlands) Corps – 1GNC, “Exercise Strong Sword,” <https://1gnc.org/the-nato-response-force/>.

2016

- Gobierno de España, Ministerio de Defensa, “HQ NRDC ESP – Introduction,” <http://www.nrdc-sp.nato.int/en/unidades/Valencia/emincgtad/>.

2017

- NATO Allied Rapid reaction Corps, “Participating Nations, Alphabetical List,” <https://arrc.nato.int/page10911114>.

2018

- NATO Rapid Deployable Corps Italy, “NRDC-ITA Takes Over Role as LCC for NRF 2018,” January 10, 2018, <http://www.nrdc-ita.nato.int/461/10-Jan---NRDC-ITA-takes-over-role-as-LCC-for-NRF-2018>.

EU Operations

- Information on participation in EU ops used four main sources. Any additional sources are included below the individual operations.
- Military Balance; Danilo Di Mauro et al., *EU’s Global Engagement: A Database of CSDP [Common Security and Defence Policy] Military Operations and Civilian Missions Worldwide*, Codebook Version 1.0 (Florence, Italy: European University Institute, 2016), 10.2870/7560; Thierry Tardy, *CSDP: Getting Third States on Board*, Brief 6 (Paris: European Institute for Security Studies, 2014), https://www.iss.europa.eu/sites/default/files/EUISSFiles/Brief_6_CSDP_and_third_states.pdf; European Union, *Ad Hoc Agreements with Third States*

for Their Participation in CSDP Crisis Management Operations, Council Joint Action 2008/851/CFSP, Annex V, <http://club.bruxelles2.eu/wp-content/uploads/2012/04/listaccordsadhocechangessecurinfospsdc@ue160630.pdf>.

- European Trade Mission (EUTM) Mali
 - EUTM Mali, “About Us, Organization,” <http://eutmmali.eu/en/about-us/>.
- Operation Sophia
- EUNAVFOR MED Operation Sophia, “Mission at a Glance,” <https://www.operationsophia.eu/mission-at-a-glance/>; Maria Elena Argano, “A Stronger NATO Means a Stronger Europe. Sea Guardian and Operation Sophia Together,” *EU Logos Athena*, 2016, <http://www.eu-logos.org/?p=14175>.

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