

NATO's "Brain Death" Burden-sharing Blunders

Focusing on the Right Investment,
Force Strength, and Readiness Needs

Anthony H. Cordesman

With the assistance of Max Molot



Working Paper: November 21, 2019

Please provide comments to acordesman@gmail.com

NATO's "Brain Death" Burdensharing Blunders: Focusing on the Right Investment, Force Strength, and Readiness Needs

Anthony H. Cordesman, Burke Chair in Strategy

With the Assistance of Max Molot

One can argue many aspects of President Macron's interview in which he warned about the "brain death of NATO." One cannot argue that the U.S. focus on "burden sharing" has been an awkward combination of bluster and bullying focused almost solely on getting Europe to spend more in terms of fixed spending goals that are not tied to any aspect of strategy, force planning, or specific efforts to improve deterrence and defense.

There is nothing practical about some of his suggestions and comments, including his focus on a European Defense Initiative. In his interview in the Economist he states that,

...the European Intervention Initiative that I announced at the Sorbonne and which is now a reality: on Bastille Day this year, we had the nine other member states in Paris. Since then, Italy has joined us, and Greece would also like to join this initiative. This shows that there is growing awareness of the defence question. Countries like Finland and Estonia have joined this initiative, countries which up until now were, for one, deeply suspicious of NATO, and, for the other, distrustful of Russia, so in a mindset of: "I surrender completely to NATO". The instability of our American partner and rising tensions have meant that the idea of European defence is gradually taking hold. It's the aggiornamento for a powerful and strategic Europe. I would add that we will at some stage have to take stock of NATO. To my mind, what we are currently experiencing is the brain death of NATO. We have to be lucid.

The U.S. political emphasis on burdensharing has done serious damage to the alliance, as it has to America's strategic partnerships through the world. The fact remains, however, that any analysis of comparative military capabilities, and defense resources shows that NATO is still the keystone to Western security. It provides the best possible real-world option for the West in every major aspect of collective security: dealing with Russia, countering extremism and terrorism, and finding functional approaches to out-of-area cooperation.

NATO is making real progress in spite of the differences between its members, their different interests and security policies, and the many challenges they face. The efforts to improve deterrence in the forward area, rapid deployment capabilities, and training for joint operations had made real improvements at the professional level thanks to NATO planners and commanders, in spite of the pointless bickering over burden sharing at the head of state and ministerial levels. As the Secretary General's Annual Report for 2018 makes clear, NATO has many productive initiatives underway that do focus on its real security needs, and that will help deter Russia and deal with the key issues in its military readiness and force planning. In fact, some 90% of the Secretary General's report focuses on such issues.

At the same time, it is all too true that NATO is now caught up at the ministerial level in meaningless burden sharing exercises that do not serve its security interests, and that are mathematically and functionally ridiculous. Its ministers focus far too much on abstract spending goals, rather than needed force improvement and mission capabilities.

Macron's focus on brain death is all too accurate when he says that,

You have partners together in the same part of the world, and you have no coordination whatsoever of strategic decision-making between the United States and its NATO allies. None. You have an uncoordinated aggressive action by another NATO ally, Turkey, in an area where our interests are at stake. There has been no NATO planning, nor any coordination. There hasn't even been any NATO deconfliction. A meeting is coming up in December. This situation, in my opinion, doesn't call into question the interoperability of NATO which is efficient between our armies, it works well in commanding operations. But strategically and politically, we need to recognize that we have a problem.

NATO's current burden sharing goals totally ignore military needs and effectiveness, and merely call for spending 2% of GDP on total defense spending levels, and at least 20% of annual defense expenditure on major new equipment. Such goals may seem simple, and it may seem hard to argue that more spending does not have benefits. This only begins to make sense, however, if one ignores any concern with what the added money buys. There are no serious aspects of life, however, where spending more is a substitute for spending wisely.

The Burke Chair at CSIS has prepared a new report that examines the practical and mathematical weaknesses of these goals in detail. It is entitled **NATO's "Brain Death" Burdensharing Blunders**, and it is available on the CSIS web site on the Burke Chair in Strategy page.

The analysis shows that NATO heads of state, Ministers, and parliaments/legislatures do not properly examine the priorities that would emerge from net assessments of the balance or on improving NATO's capability to deter and fight. They fail to focus effectively on its many individual national problems and issues in strength and readiness, and they have failed to create coherent force and modernization plans for the future.

Worse, this report presents considerable quantitative evidence that NATO's current burdensharing goals actually focus the Alliance on the wrong objectives, and do so in ways that encourage pointless burden-sharing debates over the wrong objectives. It shows that the 2% and 20% goals have six critical defects:

- They are irrelevant, given intelligence estimates of the actual level of NATO resources relative to the key Russian threat.
- They have no relation to force planning and mission capability priorities and simply assume the problem is spending more, rather than wisely.
- They are not based on any assessment of key threats and net assessment of NATO and threat capabilities.
- They ignore the radically different economies, force postures, investment needs, and overall spending priorities of given countries.
- Meeting or exceeding the goals does not do anything to ensure that a country has the right forces and is pursuing the right path for force development, or will halt major force cuts, will halt spending on the wrong things, or make a given country's forces "better" than the forces of the states that fail to meet them.
- They are also deeply divisive, and they substitute American strategic bullying for meaningful force planning and strategy.

The report supports these conclusions with tables and charts that show how much more NATO is spending than Russia, that highlight the problems in the reporting on the various national efforts

to meet the 2% of GDP goal, and that show NATO European spending has risen far more in real terms than comparisons based on percent of GDP reveal. They also show the lack of correlation between the level of spending in GDP and maintaining adequate force levels, the pointlessness of the spending 20% on equipment goal, and the need for the U.S. to stop bullying its allies by exaggerating its own efforts.

Spending more should not be the priority. Spending wisely should be. Accordingly, the report highlights the need for a new NATO Force planning exercise that examines how NATO country spending compares to that of Russia, and that asks why NATO spends so much more than Russia. NATO force planning should operate on the basis of a clear analysis of the priorities set by a net assessment of the balance. It should carefully consider Russia’s capabilities for hybrid, conventional, and nuclear warfare; and current nation-by-nation member country forces and capabilities.

An effective NATO force planning effort should set clear priorities for improving the mission capabilities of each individual member country – balancing force strength, readiness, and modernization – and setting force goals for a period covering at least five years in the future. NATO also needs to make such efforts transparent, and debate defense and force planning issues with the same openness that the Western democracies debate domestic issues. NATO must earn public confidence and support to get the resources and support it needs, and engage with outside criticism and debate.

Finally, NATO military and civilian staffs will need the authority to criticize and analyze on a country-by-country basis, and not simply rubber-stamp national plans. They need the authority to report even when some aspects of what they report can embarrass member countries. Above all, the U.S. – and all member countries – should approach force planning from the view of creating an effective partnership – not bullying other states or using the effort to get other nations to do more so they can do less.

Table of Contents:

SETTING THE WRONG GOALS, CLAIMING POINTLESS PROGRESS, AND IGNORING REAL INCREASES IN DEFENSE SPENDING	5
IGNORING THE THREAT, RUSSIA, AND NATO’S COMPARATIVE LEVELS OF SPENDING	6
COMPARING THE IISS ESTIMATE OF RUSSIAN MILITARY SPENDING TO ESTIMATES OF NATO EUROPEAN AND TOTAL NATO DEFENSE SPENDING	6
<i>Figure One: NATO Europe Alone Already Sharply Outspends Russia</i>	<i>8</i>
<i>Figure Two: IISS Ranking of NATO Europe in Global Military Budgets: 2018</i>	<i>9</i>
COMPARING THE IISS AND SIPIRI ESTIMATES OF RUSSIAN MILITARY SPENDING TO ESTIMATES OF U.S. AND OTHER MILITARY SPENDING	9
<i>Figure Three: Comparative FSU, Russian, U.S., Chinese, and Total Global Defense Spending: 1988-2017.....</i>	<i>11</i>
<i>(In Constant US 2016 Billions)</i>	<i>11</i>
LONGER TERM COMPARISONS USING THE RAND ESTIMATES OF RUSSIAN SPENDING	12
<i>Figure Four: Russian versus Key European Defense Budgets, 2016</i>	<i>14</i>
<i>Figure Five: Russian versus NATO Defense Budgets, 2000-2018.....</i>	<i>15</i>
“BRAIN DEATH” VERSUS POLITICAL COWARDICE AND PUTTING NATIONAL SENSITIVITIES FIRST	16
SETTING GOALS THAT DON’T MOTIVATE THE RIGHT ACTIONS, DON’T ADDRESS KEY NATIONAL DIFFERENCES, AND IGNORE NATO’S REAL-WORLD NEEDS.....	16
<i>Figure Six: The 2% Goal is Not Being Met by 21 Countries, But Even if It Was, It Virtually Nothing to Ensure a Cohesive Military Effort in NATO’s Critical Central Region</i>	<i>18</i>

USING A POINTLESS BASE POINT TO ASSESS THE RISE IN NATO COUNTRY DEFENSE SPENDING 19*Figure Seven: NATO Europe & Canada are Already Spending at Cold War Levels20**Figure Eight:21**Other Studies Show Europe Made Steady Increases in Spending During the Last Year—Many of Which Do Not Get Recognition Because They Do Not Increase the Defense Share of GDP.....21***LOOKING AT ACTUAL NATIONAL DEFENSE SPENDING VERSUS NATIONAL FORCE TRENDS, AND THE LACK OF ANY CORRELATION BETWEEN THE PERCENTAGE TRENDS IN SPENDING AND ACTUAL FORCE LEVELS 22***Figure Nine – Part One25**Percentage Change in Spending, Personnel, and Major Weapons 1990-2018 (Central Region)25**Figure Nine – Part Two26**Numerical Change in Spending, Personnel, and Major Weapons 1990-2018 (Europe - Central Region).....26**Figure Nine – Part Three27**Numerical Change in Spending, Personnel, and Major Weapons 1990-2018 (Total Russia vs. FSU and U.S.)...27**Figure Ten – Part One.....28**Percentage Change in Spending, Personnel, and Major Weapons 1990-2018 (Northern Region)28**Figure Ten – Part Two29**Numerical Change in Spending, Personnel, and Major Weapons 1990-2018 (Northern Region).....29**Figure Eleven – Part One30**Percentage Change in Spending, Personnel, and Major Weapons 1990-2018 (Southern Region)30**Figure Eleven – Part Two.....31**Numerical Change in Spending, Personnel, and Major Weapons 1990-2018 (Europe - Southern Region).....31***THE FOCUS ON SPENDING AT LEAST 20% OF ANNUAL DEFENSE EXPENDITURE ON MAJOR NEW EQUIPMENT — INCLUDING RELATED RESEARCH AND DEVELOPMENT — MAY BE EVEN SILLIER THAN THE 2% OF GDP GOAL..... 32***Figure Twelve: The 20% of Defense Spending on Equipment May Be Even Sillier.....33**“High” % of GDP and Equipment Spending Countries Can Have Shrinking Forces: The UK is at 2.2% of GDP, and 23.9% of Equipment, but Its 2018 Force and Major Equipment Strength is Far Lower than in 198934***DISHONESTY IS WORSE THAN “BRAIN DEATH:” THE U.S. NEEDS TO STOP LYING AND BULLYING ABOUT ITS 70% SHARE OF NATO..... 34***Figure Fourteen:36**The United States’ Declining Defense Burden36**Figure Fifteen:37**The U.S. Does Not Fund 70%. The U.S. Overseas Burden Has Dropped and Only a Fraction of U.S. Forces are Normally Assigned to Europe37**Figure Sixteen:.....38**U.S. Global versus European Deployments38**Figure Seventeen:.....39**Current U.S. Overseas PCS Deployments.....39***SELECTING THE RIGHT INVESTMENT, FORCE STRENGTH AND READINESS NEEDS..... 40****APPENDIX A: TRENDS IN SELECTED NATO COUNTRY LAND AND FORCE STRENGTH BY COUNTRY: 1990 VERSUS 2018..... 42***Figure A-1: Russia, Belarus, US and Central Region States – I.....43**Figure A-1: Russia, Belarus, US and Central Region States – II.....44**Figure A-2: Map of NATO’s New Central Region45**Figure A-3: NATO and Other Northern Region States: 1990–201846**Figure A-5: NATO’s Southern Region States: 1990 vs. 2018.....48**Figure A-6: Map of NATO’s New Southern Region49*

Setting the Wrong Goals, Claiming Pointless Progress, and Ignoring Real Increases in Defense Spending

Thanks to NATO's national leaders and ministers, far too much of NATO's public profile is now focused on fighting over burdensharing goals that are not only meaningless, but actively counterproductive. These goals ignore military needs and effectiveness, and merely call for spending 2% of GDP on total defense spending levels, and at least 20% of annual defense expenditure on major new equipment.

The Secretary General's report for 2018 focuses largely on meaningful force goals and steps forward, but it cannot ignore the political pressure to focus on burdensharing, and it summarizes these arbitrary goals as follows:

At the 2014 Summit in Wales, NATO leaders endorsed a Defense Investment Pledge. The pledge called for all Allies that did not already meet the NATO-agreed guideline of spending 2% of Gross Domestic Product (GDP) on defense to stop cuts to defense budgets, gradually increase spending, and aim to move towards spending 2% of GDP on defense within a decade. Allies also agreed, in that same time-frame, to move towards spending at least 20% of annual defense expenditure on major new equipment, including related research and development. (p. 34)¹

As a result of constant pressure from the current Administration in the U.S., NATO focuses on progress in meeting these percentage objectives — regardless of whether this is the right priority for a given country or will strengthen the Alliance. The Secretary General's annual report summarizes such efforts as follows:

At the Brussels Summit in July, NATO leaders agreed there is a new sense of urgency to invest 2% of GDP on defense and to have credible national plans on how to meet this goal. NATO Allies will continue to invest in developing, acquiring and maintaining the capabilities the Alliance needs to defend its nearly one billion citizens. The Alliance attaches great importance to ongoing efforts to ensure fair burden-sharing in all three elements of the Defense Investment Pledge: defense expenditure; investments in capabilities; and contributions to NATO's operations, missions and activities.

In 2018, the United States accounted for half of the Allies' combined GDP and almost 70% of combined defense expenditures.

At the same time, European Allies and Canada are continuing to spend more on defense. In 2018, seven Allies reached the 2% defense spending guideline, up from three in 2014. In real terms, defense spending among European Allies and Canada increased by almost 4% from 2017 to 2018. Furthermore, in the period from 2016 to 2018, they have contributed an additional cumulative spending of over USD 41 billion.

Allies also made progress on the commitment to invest 20% or more of defense expenditure in major new capabilities. In 2018, 25 Allies spent more in real terms on major equipment than they did in 2017. The number of Allies meeting the NATO agreed 20% guideline rose to 16 in 2018.

These percentage goals may seem simple, and it may seem hard to argue that more spending does not have benefits even if one ignores the total lack of any clear concern with what the added money buys. There are no serious aspects of life, however, where spending more is a substitute for spending wisely.

Worse, there is considerable quantitative evidence that NATO's current goals actually focus the Alliance on the wrong objectives, and do so in ways that encourage pointless burdening sharing debates over the wrong objectives. If nations actually try to meet them, they will often spend more in ways that further distort their existing lack of coherent spending on key missions and priorities. They will fund and continue the wrong programs and lack of interoperability, while the resulting debates over burdensharing will divide NATO in ways that serve no functional purpose.

Put simply, the 2% and 20% goals have six critical defects:

- They are irrelevant, given intelligence estimates of the actual level of NATO resources relative to the key Russian threat
- They have no relation to force planning and mission capability priorities and simply assume the problem is spending more, rather than wisely
- They are not based on any assessment of key threats and net assessment of NATO and threat capabilities
- They ignore the radically different economies, force postures, investment needs, and overall spending priorities of given countries.
- Meeting or exceeding the goals does not do anything to ensure that a country has the right forces and is pursuing the right path for force development, or will halt major force cuts, will halt spending on the wrong things, or make a given country's forces "better" than the forces of the states that fail to meet them.
- They are deeply divisive, and they substitute American strategic bullying for meaningful force planning and strategy.

Ignoring the Threat, Russia, and NATO's Comparative Levels of Spending

The NATO percentage goals would amount to "brain death" even if they were not dysfunctional in terms of the real-world mathematics of force planning. They ignore a key underlying reality in current estimates of the relative military spending by NATO and Russia: NATO's major potential threat. *Setting such goals assumes that NATO's weaknesses are dominated by its lack of spending and not by its lack of cohesive, coordinated effort to use its resources effectively.*

In actual practice, NATO – as well as NATO Europe alone – are already spending far more on military forces than Russia, and NATO's problems are shaped far more by the wasteful difference and lack of coordination in what member states buy than by a lack of funding.

Comparing the IISS estimate of Russian Military Spending to Estimates of NATO European and Total NATO Defense Spending

One of the many indicators that NATO's national leaders do suffer from some form of brain death when they focus on "burdensharing" is their failure to openly address the fact that Russia is NATO's only potential military challenger, and that the ultimate test of NATO's failure or success is the extent to which it can deter and defend against the full spectrum of Russian threats from "gray area" operations to nuclear war. NATO does have an active, and useful, collective intelligence effort but it does not perform any serious net assessments of the balance in shaping and analyzing country force plans and mission priorities, and its burden sharing activity totally ignores the relative levels of NATO and Russian defense spending.

The U.S. has long since cancelled *Soviet Military Power* – the one serious unclassified national assessment of Russian military developments – and there are no detailed NATO or national declassified estimates of Russian military spending. There are, however, a range of credible NGO estimates of Russian spending that show NATO – as well as NATO Europe alone – are already

spending far more on military forces than Russia, and that NATO's problems are shaped largely by the wasteful lack of coordination in what member states buy than by any a lack of funding.

Three key NGO sources include reporting by the International Institute for Strategic Studies (IISS), the Stockholm International Peace Research Institute (SIPRI), and RAND. The IISS estimate for Russian military spending in CY2018 is the highest, but was still only \$63.1 billion. This was the third highest level of national spending in the world, but far below the IISS estimate of \$643.3 billion for the U.S. and \$168.2 billion for China. and it only rose to \$64.1 billion when all of Belarus' expenditures are included.

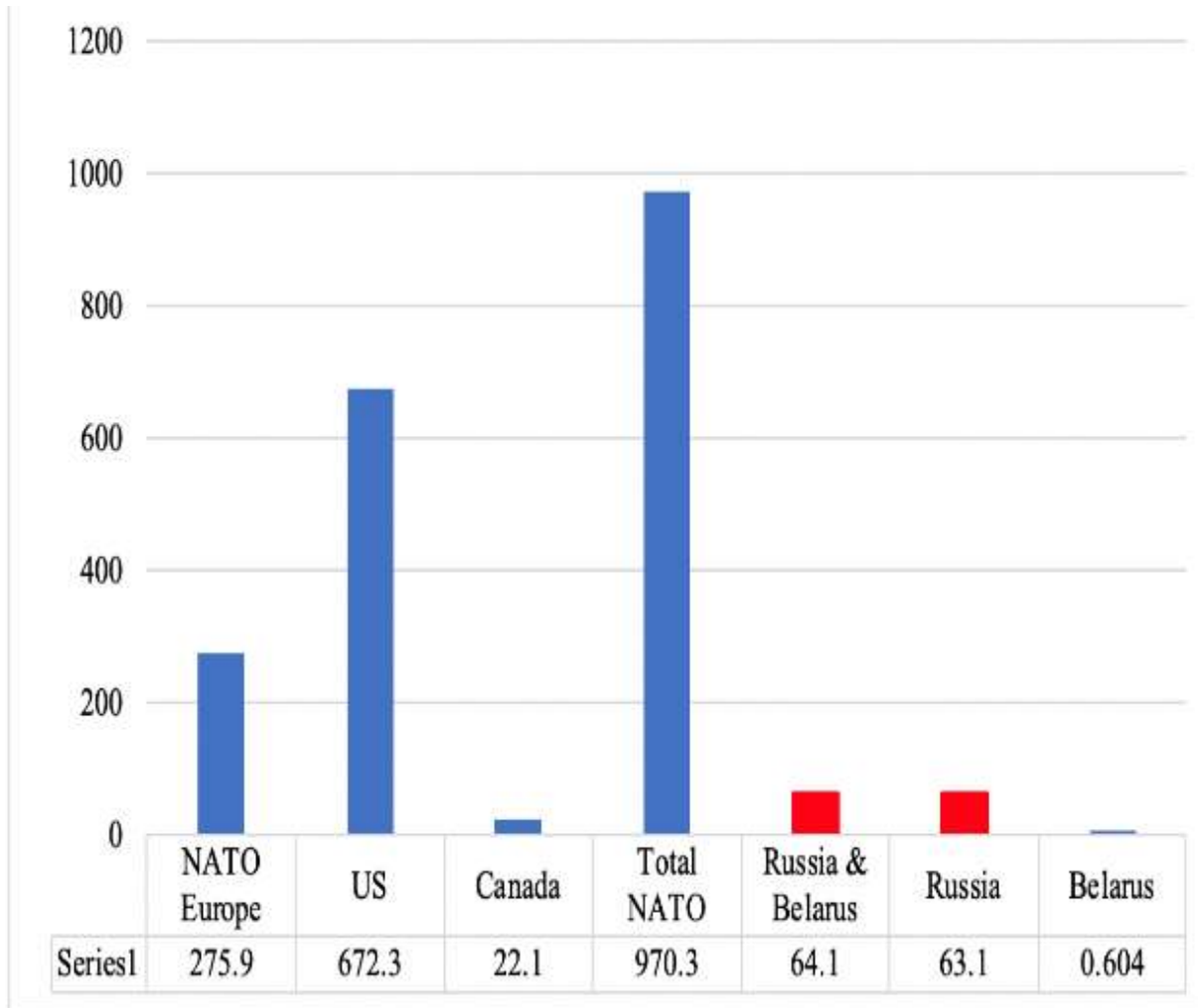
Figures One and **Two** compare NATO and Russian military spending by using the IISS total for Russia and by drawing upon the NATO European member country defense spending data, which indicate that NATO Europe spent a total of \$276.0 billion in 2018.²

They also draw on reporting by the U.S. Department of Defense for total FY2018 defense Budget Outlays, which gives a figure of \$730.1 billion. NATO only reports \$694.3 billion for the U.S. – 95% of the DoD figure. However, the NATO estimate seems too low and may ignore the impact of growing U.S. calendar spending from increased appropriation in past years and some aspects of U.S. spending on nuclear weapons.³

The data in **Figures One** and **Two** show that in CY2018:

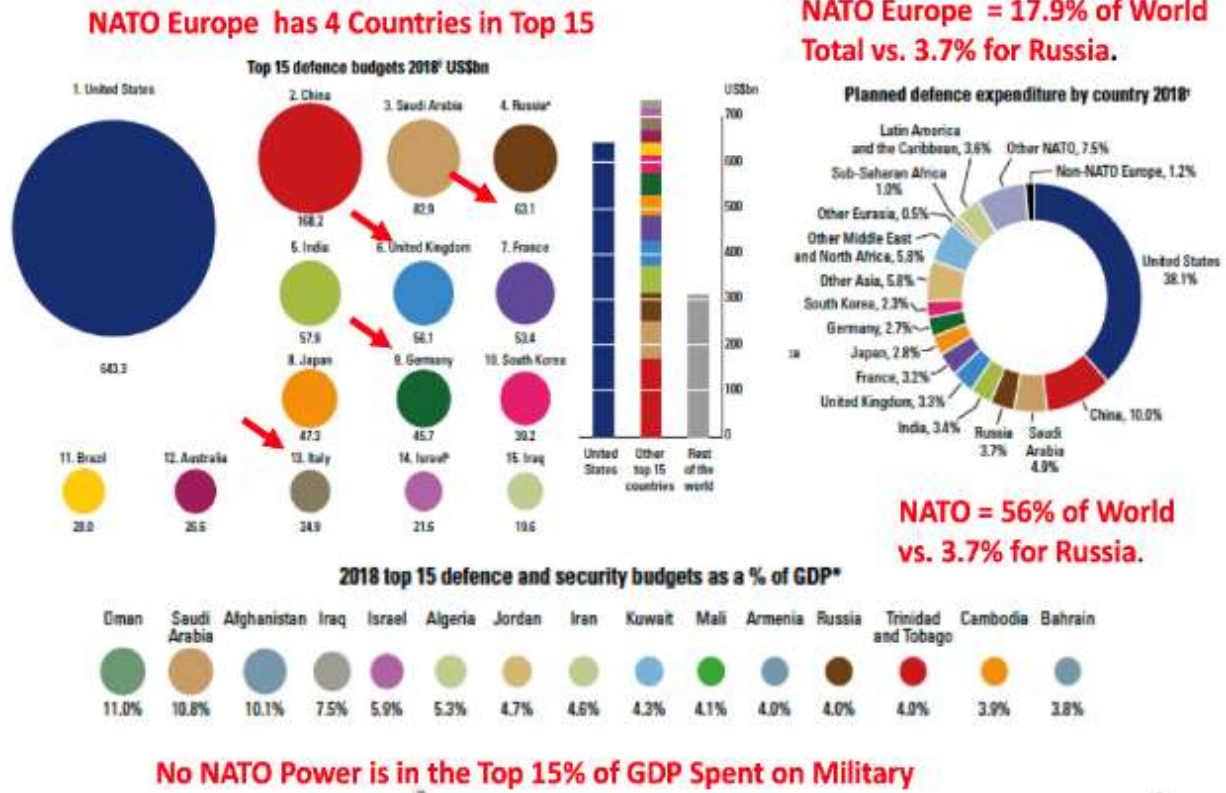
- *NATO spent well over 15 times as much on defense in 2018 as Russia did on military forces.* NATO as a whole spent \$970.3 billion on defense in 2018. Russia and Belarus spent \$64.1 billion (Russia alone spent \$63.1 billion)
- *NATO Europe alone spent well over 4 times as much on defense in 2018 as Russia did on military forces.* NATO Europe spent \$276.0 billion on defense in 2018. Russia and Belarus spent \$64.1 billion (Russia alone spent \$63.1 billion)
- *NATO Europe has four countries in the IISS ranking of the top 15 nations in terms of global military spending.* (France, Germany, Italy, and the UK).
- *NATO Europe accounted for 17.9% of total global military spending. Russia accounted for 3.7%.*
- *All of the World's top 15 spenders in terms of military spending as a percentage of GDP are medium to token military powers.* The percent of GDP is not a meaningful measure of military capability.

**Figure One: NATO Europe Alone Already Sharply Outspends Russia
(Military Spending in \$US Billions in Current Dollars in CY2018e)**



Source: NATO, [Defence Expenditure of NATO Countries \(2012-2019\)](#), Communique, PR/CP(2019)069, June 25, 2019, p. 7; IISS, [Military Balance, 2019](#), pp. 188 and 195; OSD Comptroller, [web page](#), June 26, 2019.

Figure Two: IISS Ranking of NATO Europe in Global Military Budgets: 2018



Source: IISS, *Military Balance*, 2019, p. 21.

Comparing the IISS and SIPRI estimates of Russian Military Spending to Estimates of U.S. and Other Military Spending

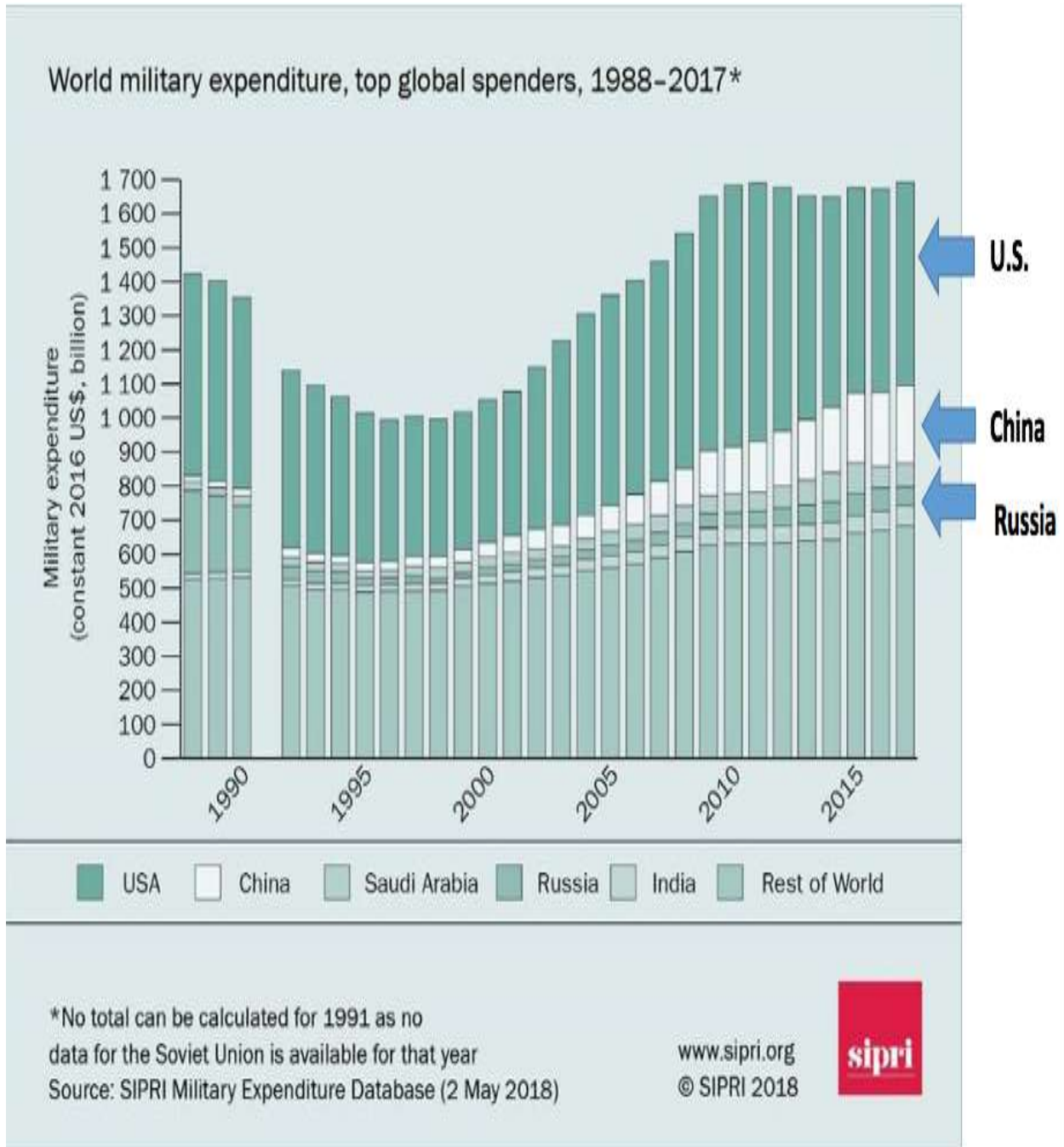
SIPRI estimates a slightly lower total for Russia of \$61.4 billion. SIPRI estimates that Russian military spending was still the sixth highest in the world in 2018, but that spending decreased by 3.5 per cent compared with 2017. Both totals are close and are notably higher than the \$43.8 billion figure that the U.S. Department of Defense has used in open source literature to provide an inflation adjusted estimate of the official Russian budget in FY2018 dollars.⁴

Both the IISS and SIPRI figures for CY2018 may underreport Russian spending, given Russia's ability to take advantage of lower personnel costs and its control over military industries. It is unlikely, however, that any such underestimate could add the equivalent of more than \$5 billion to either total – particularly if the problems associated with low cost – and less well educated and trained military personnel are included. Today's military technology requires experience, training, and education, and manpower and readiness "savings" can have a major impact on military effectiveness. The \$43.8 billion figure also is an official, rather than an NGO estimate.

SIPRI also provides the further insight into comparative spending shown in **Figure Three**. This Figure compares spending trends in Constant \$US 2016 dollars from the collapse of the FSU in 1990 to 2017. It shows the striking rise of Chinese spending, but it also shows how much the breakup of the FSU led to cuts in total Russian spending relative to the FSU – while the U.S. and other countries made no major cuts in real military spending after the end of the Cold War, if any.

It strongly indicates that it was Russia – not NATO – that has had a major spending problem since 1990, and that the problem for the U.S. and NATO Europe is how well they have spent their vastly military budgets.

Figure Three: Comparative FSU, Russian, U.S., Chinese, and Total Global Defense Spending: 1988–2017
(In Constant US 2016 Billions)



Source: SIPRI, <https://www.sipri.org/research/armament-and-disarmament/arms-transfers-and-military-spending/military-expenditure>.

Longer Term Comparisons Using the RAND Estimates of Russian Spending

RAND has close ties to the Department of Defense and has recently published a major study of Russian defense spending, how it is allocated, and its impact on Russian modernization and force planning. It provides similar figures for CY2018, but also provides trend data and a detailed explanation of all of the key factors shaping Russian spending and the uncertainties in making such estimates and comparisons. The study is written by Keith Crane, Olga Olikier, Brian Nichiporuk, and is entitled *Trends in Russia's Armed Forces, An Overview of Budgets and Capabilities*, RAND RR2573, 2019, www.rand.org/t/RR2573.

The key portions of the analysis that provide a basis for understanding the trends in Russian spending from 2000 onwards, and comparing it to NATO, are summarized below:

Russia experienced a very substantial increase in the value of the ruble versus the dollar during this period as its finances stabilized and capital began to flow into as well as out of the country.

The appreciation of the ruble against the dollar in real effective terms had a substantial impact on the size of defense budgets and expenditures in constant price dollars.

Russian military budgets and expenditures in constant price dollars rose six times between 2000 and 2012 compared with 2.5 times when measured in constant price rubles. The national defense budget reported by the Ministry of Finance peaked at \$67.3 billion 2014 dollars in 2013. The decline of the ruble against the dollar since 2014 has led to sharp declines in the dollar value of Russian defense expenditures and budgets.

The budget fell to \$45.0 billion 2014 dollars in 2016, not accounting for the write-off in Ministry of Finance loans to the defense industry. As the ruble firmed in 2017, the 2017 budget rose to \$46.7 billion 2014 dollars, even though it fell by 15 percent when measured in constant price rubles.

Fluctuations in the ruble-dollar exchange rate resulted in the defense budgets seesawing back and forth in early periods as well. In 1997, the constant dollar value of the Russian national security budget ran to \$25.4 billion 2014 dollars. It then plummeted to \$5.2 billion 2014 dollars in 1999, following the collapse of the ruble. It exceeded its 1997 level only in 2006. Figure 2.3 shows Russian defense budgets and military expenditures as a share of Russia's GDP.

Despite the substantial increases in defense budgets since 2000, the share of GDP taken by these budgets rose from only 2.9 percent in 2000 to 3.8 percent in 2015, after which it has fallen back to 3.0 percent of GDP in 2017. The share of GDP devoted to the defense budget in 1997, 4.5 percent, was higher than in any year since that date (Figure 2.3). We must keep in mind, however, that the fairly modest increases in the share of GDP devoted to defense are at least partially due to the large annual growth rates in Russian GDP that occurred during the decade of the 2000s.

According to the series reported by the United Nations, military expenditures as a share of GDP have risen from 2.8 percent in 2000, which is virtually the same as the share of GDP taken by the defense budget in that year, to 3.4 percent in 2003. According to this series, the share of GDP taken by military expenditures declined after 2009, when it ran from 3.0 percent of GDP to 2.3 percent in 2013. However, by 2015, the share had risen again to 3.5 percent of GDP, before falling in 2016.

The analysis also provides some comparisons of Russian spending with NATO,

Measured in dollars, its budget in 2013, when Russia's military budget peaked in dollar terms at \$66.1 billion, was the fourth largest in the world, following the United States, China, and Saudi Arabia, *although the Saudi, French, and British budgets were almost the same size as Russia's*. As of 2016, Russia had fallen behind India, France, the United Kingdom, and Japan. (This reinforces the IISS estimate that Russia is only spending marginally more than the highest spending NATO European powers spend individually.)

Figure Four shows Russia's military budget in 2016 compared with the three militarily most powerful European members of NATO: France, Germany, and the United Kingdom.

Despite the large increases in both the reported military budget and expenditures, Russia's defense budget and expenditures as reported to the United Nations remain a small fraction of the U.S. defense budget. In 2013, Russia's defense budget peaked at \$67.2 billion; military spending as reported to the United Nations ran to \$52.1 billion.

By contrast, in fiscal year (FY) 2013 the total U.S. defense budget was \$577.6 billion (including funding for overseas contingency operations of \$82 billion). In other words, these measures of Russia's budget and expenditures ran 9 to 11 percent of total U.S. defense spending in that year, depending on whether one chooses military expenditures as reported to the United Nations or the military budget.

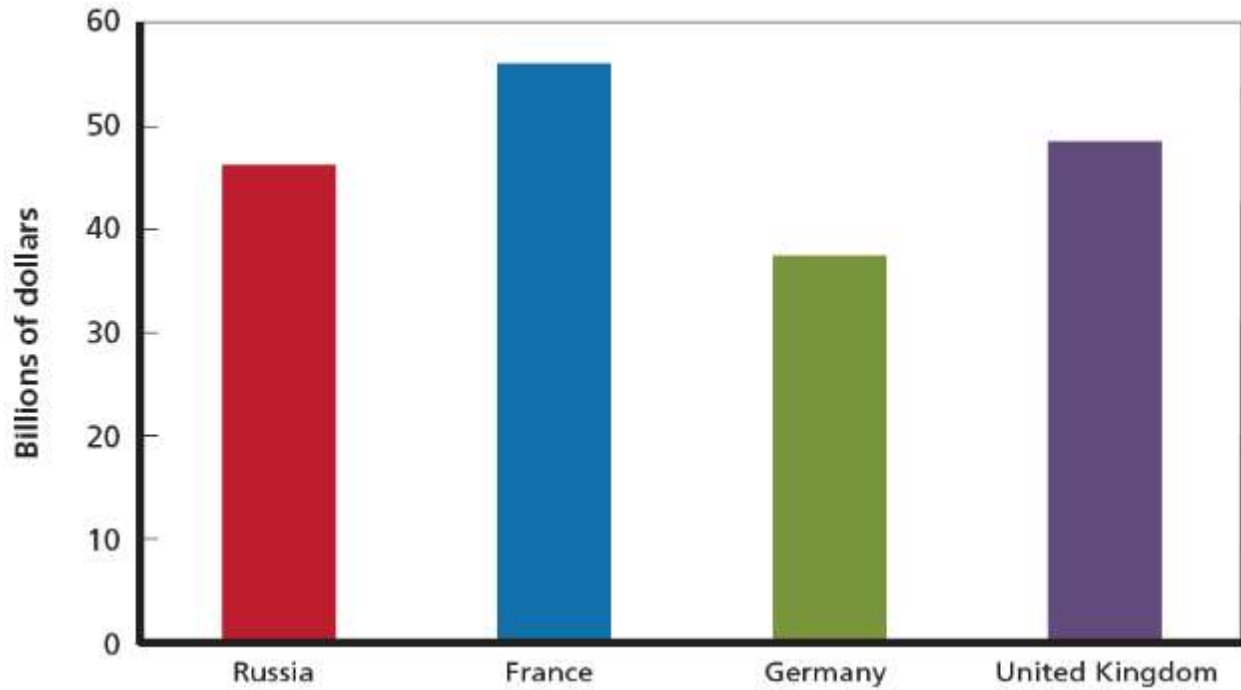
The difference in 2016 is even more marked, with Russia's budget running less than 8 percent of the U.S. defense budget. The U.S. advantage in defense budget size is even more pronounced in 2019, as the annual US defense budget is now slightly greater than \$700 billion.

Even with the recent declines in Russian defense budgets, they remain much higher than those of Russia's immediate neighbors. According to the Stockholm International Peace Research Institute (SIPRI), in 2016, the combined budgets of the three Baltic states ran to \$1.5 billion; Ukraine's budget was \$3.4 billion. Even when one factors in their smaller populations and territories, Russia's budget of \$46.1 billion dwarfs their spending.

Figure Five compares the RAND data in constant \$2014 dollars to the NATO data in constant dollars for the same years. Several things are clear. NATO Europe has a decisive lead, even if the U.S. and Canada are ignored. The total NATO lead is massive, *and it was massive before NATO set its absurd goals for burden sharing*. Equally important, if an NGO like RAND can do an analysis of Russian spending that also includes a detailed analysis of Russian force plans, mission capabilities, and changes in key investment and spending priorities, then NATO can clearly do one as well – and do one for each of its member countries.

It is functionally absurd – even “brain death” – for NATO not to make such assessments for both its primary threat and its individual members countries, develop force plans based on a net assessment of the resulting balance and overall expenditure priorities, and make them public enough to serve as a basis for democratic review and debate. One does not have to be a counterintelligence expert to realize that these are areas where it may be possible to keep secrets from one's voters but impossible to keep them from one's potential enemy.

Figure Four: Russian versus Key European Defense Budgets, 2016

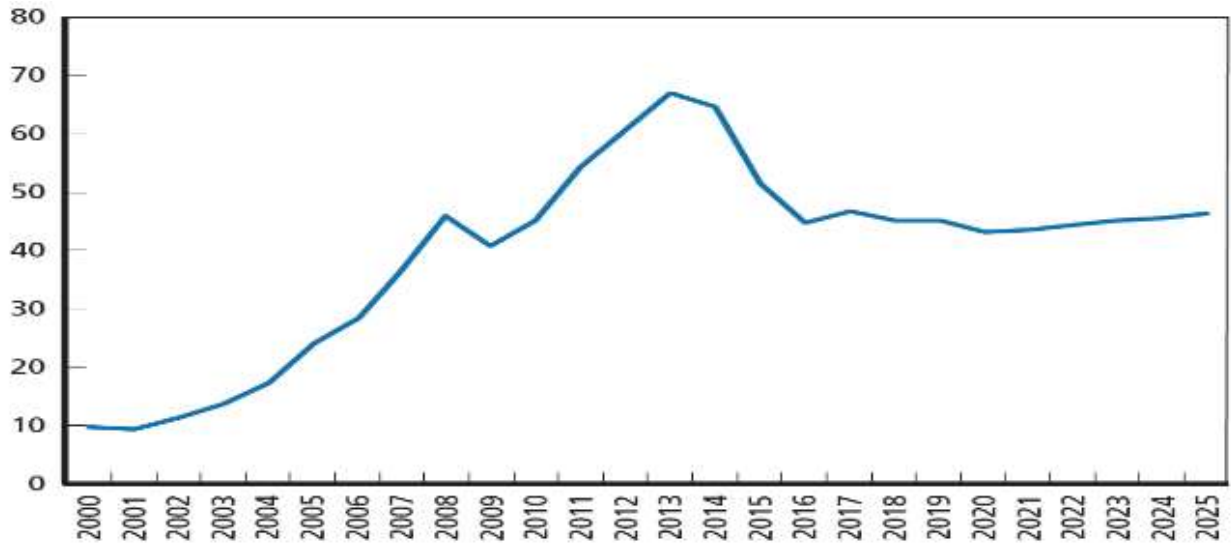


SOURCES: *Trends in Russia's Armed Forces, An Overview of Budgets and Capabilities*, RAND RR2573, 2019, www.rand.org/t/RR2573. P. 10, drawing upon Russian Ministry of Finance, 2015; International Institute of Strategic Studies, "Russia and Eurasia," *The Military Balance 2017*, Vol. 117, No. 1, 2017, pp. 183–196. NOTE: Data from the Russian Ministry of Finance.

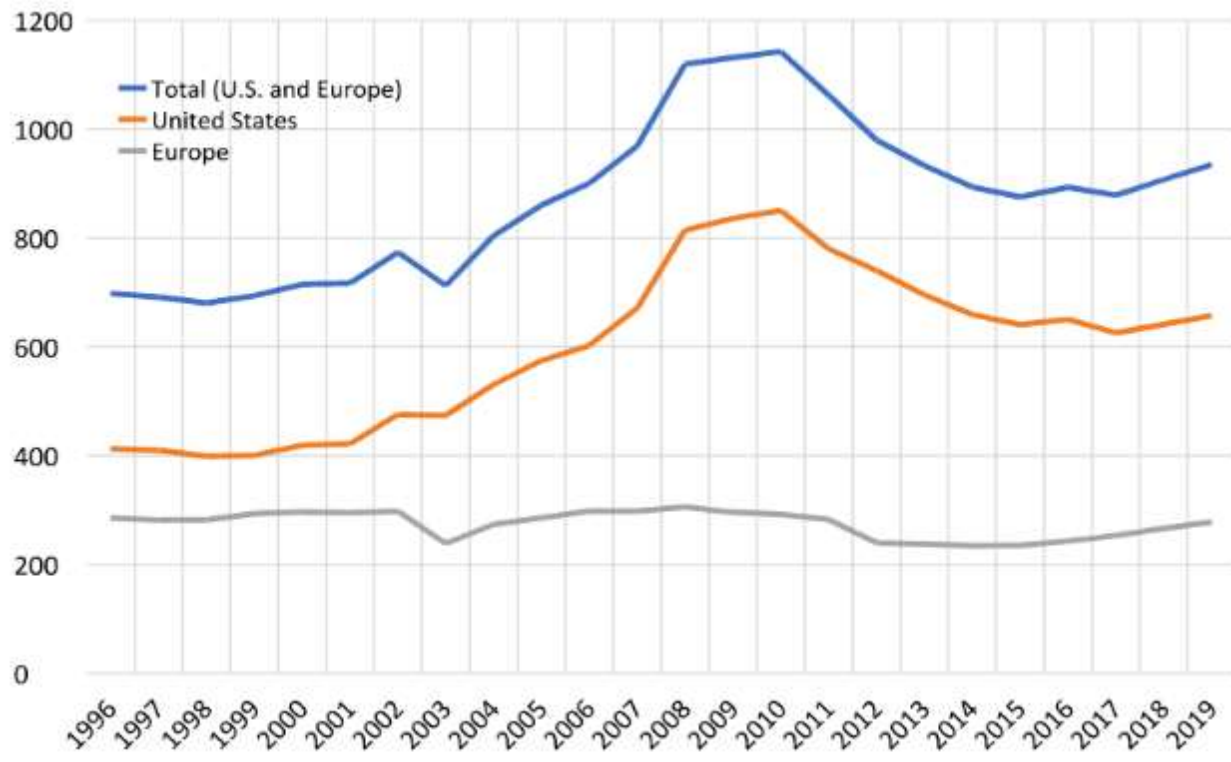
Figure Five: Russian versus NATO Defense Budgets, 2000-2018

(in Billions of 2014 Constant US Dollars)

Russian Military Expenditures (Top of Chart is only \$80 billion)



NATO Military Expenditures (Top of Chart is \$1,200 billion)



SOURCES: *Trends in a Russia’s Armed Forces, An Overview of Budgets and Capabilities*, RAND RR2573, 2019, www.rand.org/t/RR2573, “ p. 27, drawing upon Russian Ministry of Finance, “Federal Budget of Russian Federation, 1992–2014” and “Annual Report on Execution of the Federal Budget, 2006–2018.” NATO data are converted into constant dollars and drawn from NATO, Information on Defense expenditures, https://www.nato.int/cps/en/natohq/topics_49198.htm.

***“Brain Death” versus Political Cowardice and Putting National Sensitivities
First***

These data on spending levels are not fully comparable. Comparisons of different national prices never are, and currency conversions and deflators always have some element of uncertainty. There are major differences in the military costs for personnel, readiness, and equipment between given NATO countries, and differences between the relatively honest defense budget figures released by NATO countries and the politically adjusted official budget data released by Russia.

This makes it hard to convert national military spending data into truly comparable dollar values. U.S. analysts and intelligence experts were never able to agree on how to convert Soviet costs into comparable costs during the Cold War, and learned after the collapse of the Soviet Union that all of their range of estimates had been too low.

However, all sources agree that even if Russia's real costs were three times its publicly stated military budget, NATO spending would still be far higher. Accordingly, this lack of attention to the difference in spending between NATO and its only major threat, and to where the money actually goes within NATO, is a critical failure within the NATO alliance.

It is partly the result of the fact that NATO Defense Ministers, Presidents, and Prime Ministers have shown far too little real concern for effective force planning at either the national or the NATO level. NATO doesn't just need net assessments to determine what forces are best needed to deter and defend. It needs them to address the major differences between NATO and Russia in their relative use of resources and to find ways to use its vast superiority in resources more effectively.

This failure also has some of its roots in political cowardice at the highest levels of NATO national governments. Setting broad spending goals unrelated to military need, and actual national performance goals is the result of political efforts by many countries and defense ministers to find the simplest possible approach, and to avoid embarrassing any country by addressing its actual weaknesses and shortfalls – even when ministers and national governments realize the end result is a stupid and incompetent one.

It is also the result of a lack of any clear effort by Defense Ministers and national governments to tie NATO force planning to a public net assessment of the extent to which Russia is a threat, that publicly describes member country's relative capability by key capability and mission, and that displays enough political courage to publicly assess how well each member is doing in reinforcing NATO's deterrent and defense capabilities.

Setting Goals that Don't Motivate the Right Actions, Don't Address Key National Differences, and Ignore NATO's Real-World Needs

The problems with NATO's 2% and 20% goals do, however, go much further than a total lack of any attention to the comparative spending and resources on each side. These percentage goals not only ignore every aspect of NATO's actual military needs and priorities, they do not make practical mathematical sense. They do not define spending levels that will correct the problems in existing force structures, provide higher levels of level of deterrence or defense, or act as incentive to voters to spend more on their own security. Spending more with any rational goal for such spending only seems to be better if one ignores the lack of any clear end result.

Figure Six helps to introduce the additional problems that result from the real-world interactions between such percentage goals and actual military capability. It shows the current level of success or failure by NATO country in meeting the 2% of GDP goal, and highlights the countries closest to Russia and Belarus.

This Figure shows how little a half a decade of such burdensharing efforts has made on many countries. More importantly, it is clear that some of the most vulnerable and exposed "forward" states – as well as key major powers in the areas behind them – have long been underspending on defense by any standard. Here the math is roughly equivalent to the opposite of compound interest.

The net effect is to create a long series of national "compound deficits." Year-after-year of inadequate efforts to develop key mission capabilities, modernize effectively in interoperable ways, and properly balance every aspect of modernization while achieving suitable readiness creates a cumulative deficit. Dealing with this deficit requires far more than meeting an arbitrary spending goal for a given year. It requires a growing massive investment, a basic change in force planning priorities, or aid from outside allies in a crisis. Simply increasing spending arbitrarily will not address this problem, and provides an alibi to politicians accused of not supporting defense efforts.

The 2% goal would be dysfunctional under any conditions, but it is critical to realize that most such countries have fallen below the goal for years. This is made clear in the three Figures covering country-by-country performance shown later in this study. They show that most NATO countries have made massive cuts in the land and air forces that are the most critical aspects of deterrence. They show the cumulative impact of underspending, and that many countries have made major force cuts even when they have spent over 2% of GDP, and met the 20% or more of defense expenditure in major new capabilities goal.

More generally, setting the same spending goals for every NATO country is mathematically ridiculous. If one uses unclassified annual reporting on national forces from sources like the IISS and HIS Janes, and examines nation-by-nation force structures and the national history of force cuts over time, even the most casual reader can see that reaching the 2% of GDP level and spending on existing force structures will never seriously outpace the readiness and modernization problems of at least half the states in NATO. Unless such NATO countries change their force plans and spending priorities to meet the real military needs of the Alliance, fully meeting both NATO percentage goals will never avoid the need to keep cutting forces, maintain hollow forces, and/keep deploying the wrong ones.

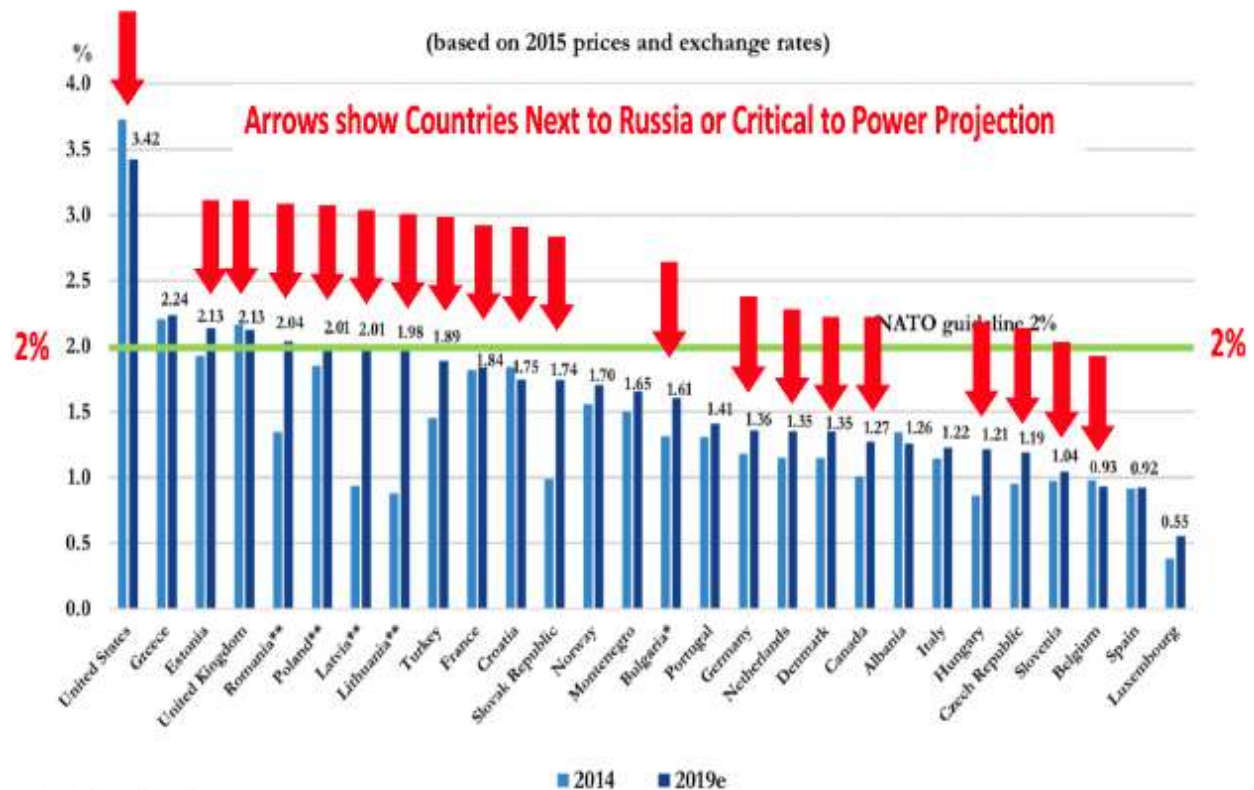
In many cases, increasing funding for existing national plans and force structure will sink even more money into national efforts on spending on the wrong forces, missions, and areas of military capability. In such cases, the added spending will further distort problems in modernization, interoperability, and mission priorities, and will actually make things worse.

Examining national force structures also shows how dependent most European powers near Russia are on outside reinforcement in any crisis that requires effective deterrence and war fighting capability, how badly European national force structures are set up to provide such power projection, and how dependent NATO is on the advanced power projection capabilities of the United States. President Macron is certainly right in calling for Europe to do more to create coordinated force plans and interoperable military capabilities. Decades of cumulative negligence and badly coordinated European underspending, however, have had their effect. It would now take

something approaching a military and political miracle, however, for Europe to be able to create an effective structure of deterrence and defense without the United States.

Figure Six: The 2% Goal is Not Being Met by 21 Countries, But Even if It Was, It Virtually Nothing to Ensure a Cohesive Military Effort in NATO’s Critical Central Region

(NATO Spending as a Percent of GDP in 2014 and 2019 in Constant 2015 Prices and Exchange Rates)



Notes: Figures for 2019 are estimates.

* Defence expenditure does not include pensions.

** These Allies have national laws and political agreements which call for 2% of GDP to be spent on defence annually, consequently estimates are expected to change accordingly. For the past years, Allies' defence spending was based on the then available GDP data and Allies may, therefore, have met the 2% guideline when using those figures (In 2018, Lithuania met 2% using November 2018 OECD figures).

Source: NATO, *Defence Expenditure of NATO Countries (2012-2019)*, Communique, PR/CP(2019)069, June 25, 2019.

Using a Pointless Base Point to Assess the Rise in NATO Country Defense Spending

There are additional critical problems in the 2% of GDP goal. Setting percentage of GDP spending goals not only assumes that all necessary military forces in every NATO country can be funded with 2% of the GDP, it assumes that all national economies are equally poor and wealthy, and tacitly implies that spending more than 2% is wasteful. It also again ignores how much given countries have actually been spending.

No one can actually compare what the percentages of GDP can actually buy, or guess what they mean. They effectively hide every aspect of what the trends in national spending have done to national military capabilities since the end of the Cold War led to a "peace dividend."

They also do not show how much given countries have actually increased or cut their spending since Russia attacked Georgia, seized the Crimea, and sent its "little green men" into Ukraine. Even if one does ignore what the spending actually buys by way of security, resources should be measured and compared in constant dollars, not in percentages of GDP, and the trends in burden should be measured accordingly.

NATO does generate such figures, and they are shown in **Figure Seven** for all of NATO Europe, and then for each individual country in the Alliance. The graph at the top of **Figure Seven** may surprise many critics of Europe. It shows that NATO Europe is now spending nearly as much in constant dollars as it did in the last years before the Cold War ended. It may not be spending with any particular coherence and wisdom, but the addition of former Warsaw Pact states and economic growth has kept defense spending relatively high.

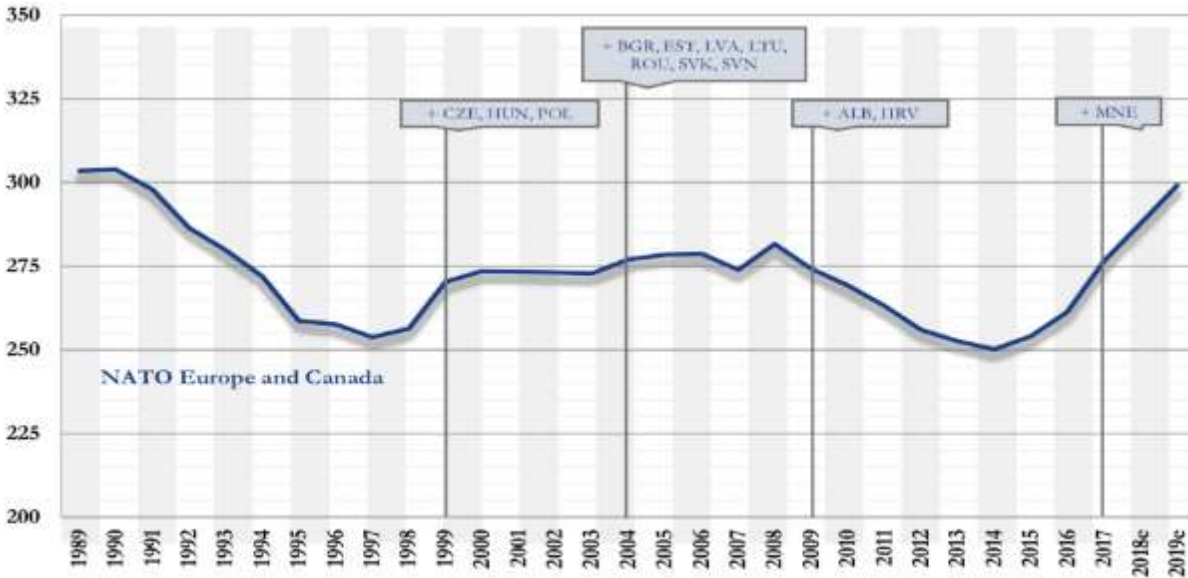
The second half of **Figure Seven** is even more revealing. It shows just how radically different individual national spending efforts have been over time. Interestingly enough, however, it scarcely indicates that NATO Europe collectively took more of a peace dividend than the U.S. According to NATO, European states spent \$239.9 billion in 2012 in constant 2018 U.S. dollars, and will spend \$277.9 billion in 2019 – a rise of 16%. The U.S. spent \$741.1 billion in constant dollars by NATO definition in 2012, and will spend \$685.1 billion in 2019 – a cut of 8%.

One can question NATO's way of estimating U.S. defense spending, but this is how NATO generates the figures used in estimating percentage burden sharing. *Seen from this perspective, the NATO data also show that NATO Europe did roughly three times better in actually increasing its percentages of total defense spending between 2012 and 2018 than the U.S. The data also show that virtually every European country listed in Figure Seven – except Belgium, Greece, Italy, Portugal, Slovenia, and Spain – has made significant increases in defense spending since Russia seized Crimea and launched a hybrid war in Ukraine.*

This point is emphasized in **Figure Eight**. This Figure is the result of a recent analysis by the International Institute for Strategic Studies (IISS), which shows the positive trends in European spending during 2017-2018. It emphasizes the extent to which the narrow U.S. emphasis on percent of GDP goes from a valid focus on burden-sharing to the point of statistical bullying.

Figure Seven: NATO Europe & Canada are Already Spending at Cold War Levels

(Total defense expenditures in billions of dollars, based on 2015 prices and exchange rates)



Notes: Includes enlargements which took place in: 1999 (3 Allies), 2004 (7 Allies), 2009 (2 Allies) and 2017 (1 Ally). Figures for 2018 and 2019 are estimates.

Million US dollars

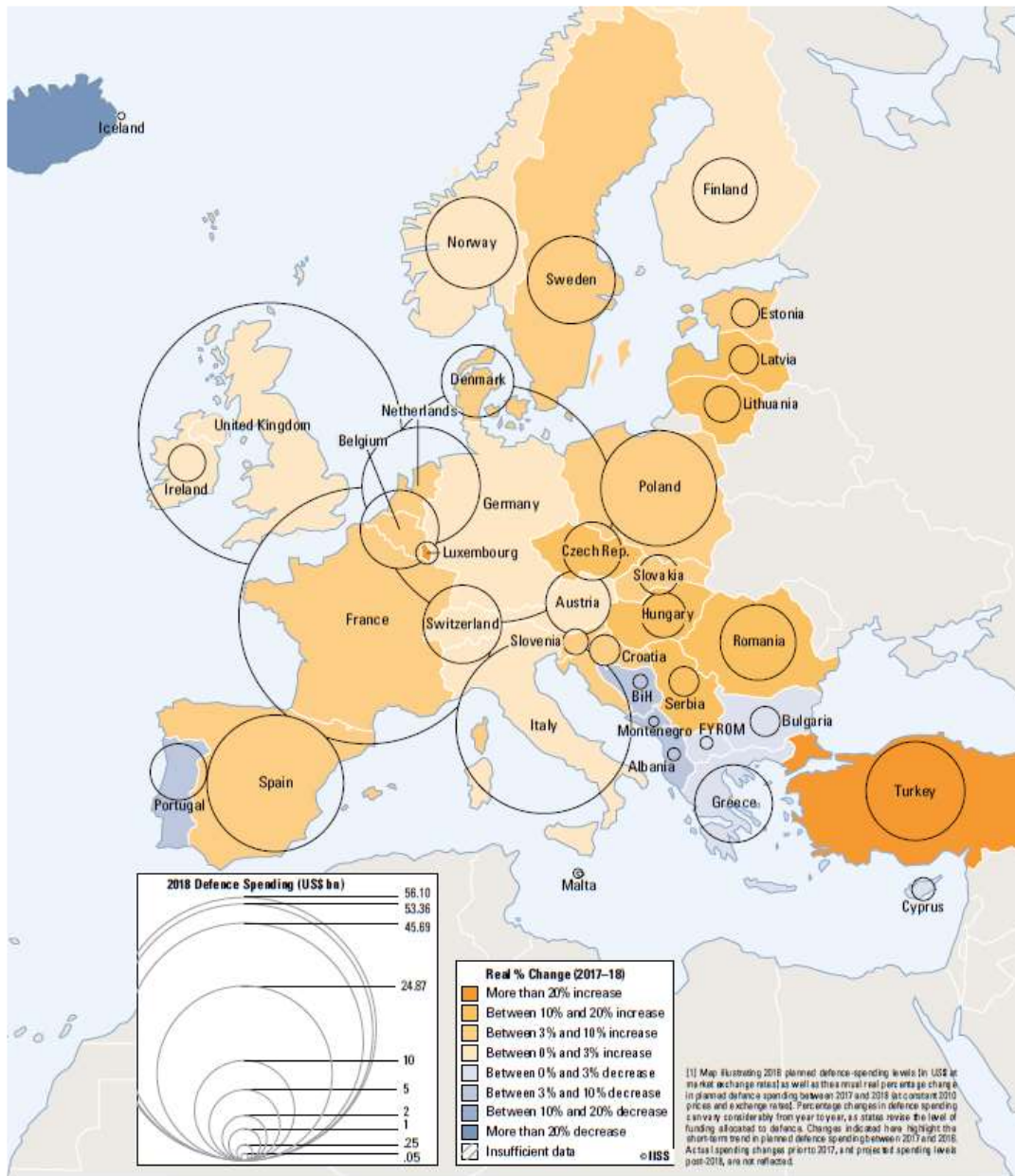
	2012	2013	2014	2015	2016	2017	2018e	2019e
Constant 2015 prices and exchange rates								
NATO Europe	239,924	237,769	234,571	235,336	243,114	253,307	266,502	277,858
Albania	161	154	150	132	130	135	148	166
Belgium	4,586	4,472	4,383	4,202	4,192	4,214	4,345	4,494
Bulgaria*	635	696	638	633	657	673	824	927
Croatia	744	707	892	883	831	883	931	970
Czech Republic	1,829	1,772	1,686	1,921	1,831	2,086	2,312	2,513
Denmark	3,898	3,572	3,399	3,304	3,370	3,632	4,171	4,434
Estonia	406	417	432	463	491	504	517	569
France	44,460	44,453	43,914	43,474	44,222	44,923	46,573	47,795
Germany	42,443	39,813	39,304	39,813	41,138	43,584	44,341	49,132
Greece	4,632	4,335	4,353	4,517	4,652	4,655	4,522	4,624
Hungary	1,156	1,081	1,027	1,132	1,286	1,378	1,585	1,739
Italy	24,273	23,036	20,777	19,566	21,925	22,794	23,058	23,281
Latvia**	221	239	245	281	400	501	607	622
Lithuania**	287	301	358	471	629	759	907	933
Luxembourg	193	200	210	249	234	310	328	345
Montenegro	62	56	59	57	59	60	71	78
Netherlands	9,178	8,629	8,646	8,668	9,053	9,249	9,985	11,360
Norway	5,580	5,667	5,912	5,816	6,197	6,348	6,713	7,014
Poland**	7,643	7,648	8,521	10,596	9,807	9,742	10,970	11,376
Portugal	2,759	2,801	2,561	2,644	2,576	2,574	2,888	3,064
Romania**	1,962	2,127	2,309	2,581	2,617	3,438	3,779	4,368
Slovak Republic	882	806	832	986	1,011	1,029	1,184	1,754
Slovenia	485	431	411	401	447	458	494	525
Spain	12,089	10,564	10,599	11,090	9,968	11,500	12,082	12,336
Turkey	11,294	11,696	11,784	11,957	12,993	14,520	18,042	18,000
United Kingdom	58,129	62,153	61,227	59,492	62,257	63,357	65,126	65,527
North America	757,116	711,111	675,615	659,938	669,411	649,653	663,288	706,376
Canada	16,053	14,820	15,553	18,685	18,210	23,273	21,276	21,277
United States	741,064	696,291	660,062	641,253	651,201	626,380	642,012	685,099
NATO Total	997,040	948,880	910,187	895,274	912,524	902,961	929,790	984,234

Notes: Figures for 2018 and 2019 are estimates. The NATO Europe and NATO Total aggregates from 2017 onwards include Montenegro, which became an Ally on 3 June 2017.

* Defence expenditure does not include pensions.

** These Allies have national laws and political agreements which call for 2% of GDP to be spent on defence annually, consequently estimates are expected to change accordingly. For the past years, Allies' defence spending was based on the then available GDP data and Allies may, therefore, have met the 2% guideline when using those figures (In 2018, Lithuania met 2% using November 2018 OECD figures).

Figure Eight:
Other Studies Show Europe Made Steady Increases in Spending During the Last Year—Many of Which Do Not Get Recognition Because They Do Not Increase the Defense Share of GDP



Source: IISS, *Military Balance*, 2019, by country and p. 73.

Looking at Actual National Defense Spending versus National Force Trends, and the Lack of Any Correlation Between the Percentage Trends in Spending and Actual Force Levels

The previous analysis has stated that if heads of state or Ministers bothered to actually examine what individual NATO states are actually doing to improve or cut their forces and military capabilities, they would have to realize that focusing on the overall trend in NATO spending says nothing about whether key countries are making a meaningful effort in defense. The moment one turns from simple spending trends to military capability, the lack of any coherent level of effort in NATO is brutally obvious.

As stated earlier, this aspect of the "brain death" involved in NATO burdensharing becomes clear the moment one examines the trends in total forces, major combat equipment, and modernization rates. Cuts in readiness are less obvious, particularly because many nations have cut forces far more than they have cut the readiness of the remainder, and have modernized at the cost of major reductions in total weapons numbers and their operational readiness, availability, and/or sustainability. In some cases, countries have adopted the Qaddafi model of military development; they have become the equivalent of an armored parking lot.

The trends in qualitative areas are complex and difficult to summarize – particularly given the growing complexity of military forces and technology and their dependence on new forms of C³I, battle management, IS&R, and readiness. However, there are still some trends in such national efforts that are striking enough to illustrate the tangible military realities that have emerged from NATO's lack of coherent force planning and unity.

Important as sea power and extended deterrence are, it is conventional land and air power in the areas nearest Russia that provide the most immediate measure of the trends in forces that do most to deter and defend. These trends are analyzed in detail on a country-by-country basis in **Appendix A** in ways that highlight the downward trends in actual national military spending and in individual national forces between the end of the Cold War in 1990 and 2018. They also highlight the impact of these trends on each major sub-region in NATO – the Central Region, Northern Flank or Region, and Southern Flank or Region.

The bar graphs in **Figure Nine**, **Figure Ten**, and **Figure Eleven** risk oversimplifying an extremely complex set of force planning issues, but they highlight four key trends in these data by each sub-region. They focus on the cuts in total military spending, personnel, main battle tanks, and combat aircraft between 1990 and 2018. Each figure has two separate parts that show both the change in percentage terms and the change in absolute numbers. They provide a clear summary picture of the correlation between spending cuts and rise and those in the three key measures of actual force strength. **Figure Nine** has an additional part – one that highlights the same trends in total U.S. versus total Russian forces since the end of the Cold War.

It should be stressed that such trends are broad comparisons based on a few rough indicators of military capability. They have been chosen largely to provide as simple a picture as possible of the limits of focusing on spending alone, particularly in such abstract and pointless a form as the 2% and 20% goals.

Force quality does matter at least as much as quantity. The number of total active uniformed personnel and major weapons platforms has become less important as advances have taken place

in every aspect of battle management, command and control, intelligence and targeting, artificial intelligence, and precision strike capability. New forms of missiles and nuclear delivery capability, hybrid warfare, cyberwarfare, and space warfare are also reshaping NATO's military needs and capabilities.

Nevertheless, even the brief summary of the few major indicators of military strength shown in **Figure Nine**, **Figure Ten**, and **Figure Eleven** does show that that a country-by-country review of what given nations are spending versus the trends in their current forces and military capabilities shows that a focus even on military spending is a poor indicator of both past trends and future needs.

These Figures – and the more detailed force data in in Annex A that they are based upon – illustrate all too clearly what has happened in particular countries, and the need for more effective force planning over periods long enough to affect the overall forces of the state involved.

- *The percentage data in Part One of Figure Nine show that there is no meaningful correlation over time between defense spending and force levels. If actual spending does not correlate to actual force capabilities, then abstract goals like 2% and 20% become mathematically irrelevant.*
- The actual force level data in **Part Two of Figure Nine** validate these conclusions for all of the key European powers in the new Central Region. Poland will make progress, but many states close to Russia are on individual paths of decline, regardless of how they do or do not meet the 2% and 20% goals. In spite of some important recent adjustments, Britain, France, and Germany all have a declining overall capability to support the more forward states in a crisis.
- *The same is true for the data on the U.S. in Part Three of Figure Nine, but it is interesting that these data show – as do the percentage data in Part One – that it is the U.S. and Russia – not NATO Europe – which have led in post-Cold War force cuts. Here, the break-up of the Soviet Union has had a major impact in reducing the threat from the remaining forces in Russia.*
- The data for the Northern Region are shown in **Part One and Part Two of Figure Ten**. They do not include Denmark or the Baltic states – which would have to be supported and reinforced through the Central Region – but they do include two key non-NATO states – Finland and Sweden. It is striking that there is no meaningful correlation between the changes in military spending and the changes in force levels among the countries in this region. From the viewpoint of deterrence and defense, there really seem to be two sub-regions. First, deterrence and defense of Norway, Sweden, and Finland, and second, the entire sea-air region in the Baltics.
- The data for the Southern Region – in **Part One and Two of Figure Eight** – show a near total lack of meaningful correlation between the changes in military spending and the changes in force levels – except for Bulgaria, where the correlation is the result of sheer coincidence. In fact, the force developments NATO's new Southern Region are little more than an uncoordinated mess in spite of efforts to improve the situation by NATO military commands.

Once again, the forward states are weak and have uncertain force plans, and the states in the rear –Italy, Portugal, and Spain – are largely decoupled from any clear reinforcement and power projection capabilities. Ironically, this has made the U.S. a critical part of the Southern Region – and there is the little matter of the future role of Turkey and the regimes of several former Warsaw Pact states.

It is equally clear from a review of country white papers and defense budgets since NATO formally established its percentage goals at the 2014 Summit in Wales — as well as of the kind of military data provided by open sources like the IISS and IHS Janes — that the level of correlation does not improve between 2014 and 2019.

Experts will differ over how well any given country did use its resources to make the best quantitative and qualitative choices in spending its defense budget. At the same time, it does not take much research to see that the country-by-country trends in open source data on NATO country forces between 2014 and 2019 show that most countries with weak forces in 2014 will never correct their problems in the near or mid-term by going to 2% of GDP or 20% of annual defense expenditure on major new equipment.

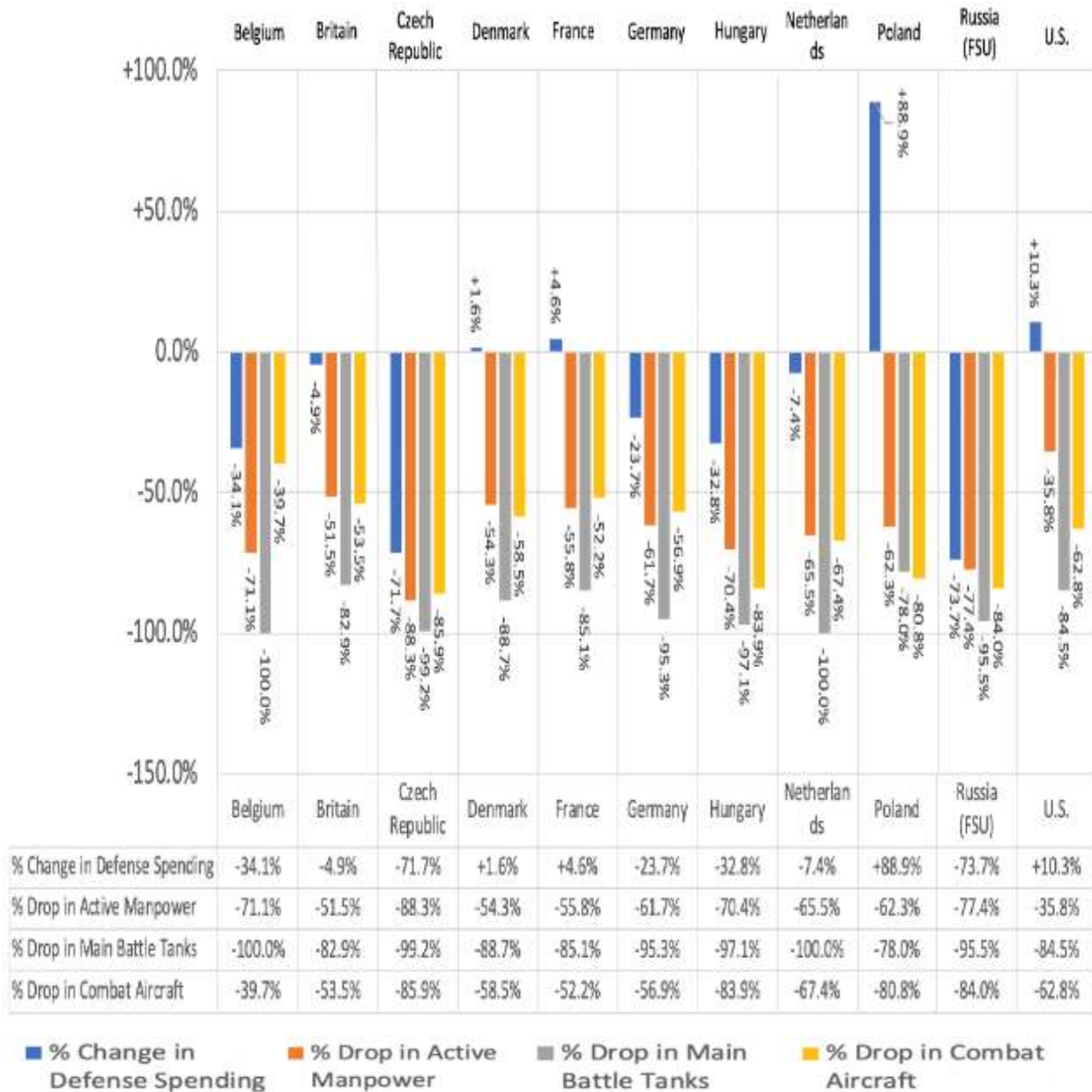
It is also obvious that the level of deterrence and defense in each sub-region is partly dependent on such “weakest links.” Strong, effective defense efforts by some countries can be offset by critical weaknesses in the forces of neighboring states that leave them open to intimidation and actual attacks that bypass the more capable neighbor. At the same time, it is all too clear how difficult it would really be to replace the United States in the ways that President Macron has suggested, and how critical NATO remains if it can break out of its 2% and 20% “brain death” traps at the head of state and Ministerial levels.

Carrying out a fully meaningful NATO country-by-country review of the quantitative and qualitative actual force plans and military developments is a task for the NATO military and civilian defense experts. It requires detailed study at the classified level, and must involve objective military judgements that should only come from NATO staffs and commanders.

It is all too clear that NATO stands or falls, however, on the extent to which each nation provides the right forces to deter and defend, and not on the basis of what percentages its defense expenditures are as a percent of its GDP. Equipment expenditures have to focus on the right mission priorities, interoperability, and the balance between readiness, force strength, and modernization. The chance that this goal should be precisely 2% of GDP or 20% of annual defense expenditure in any given country in any given year is negligible.

Figure Nine – Part One
Percentage Change in Spending, Personnel, and Major Weapons 1990-2018
(Central Region)

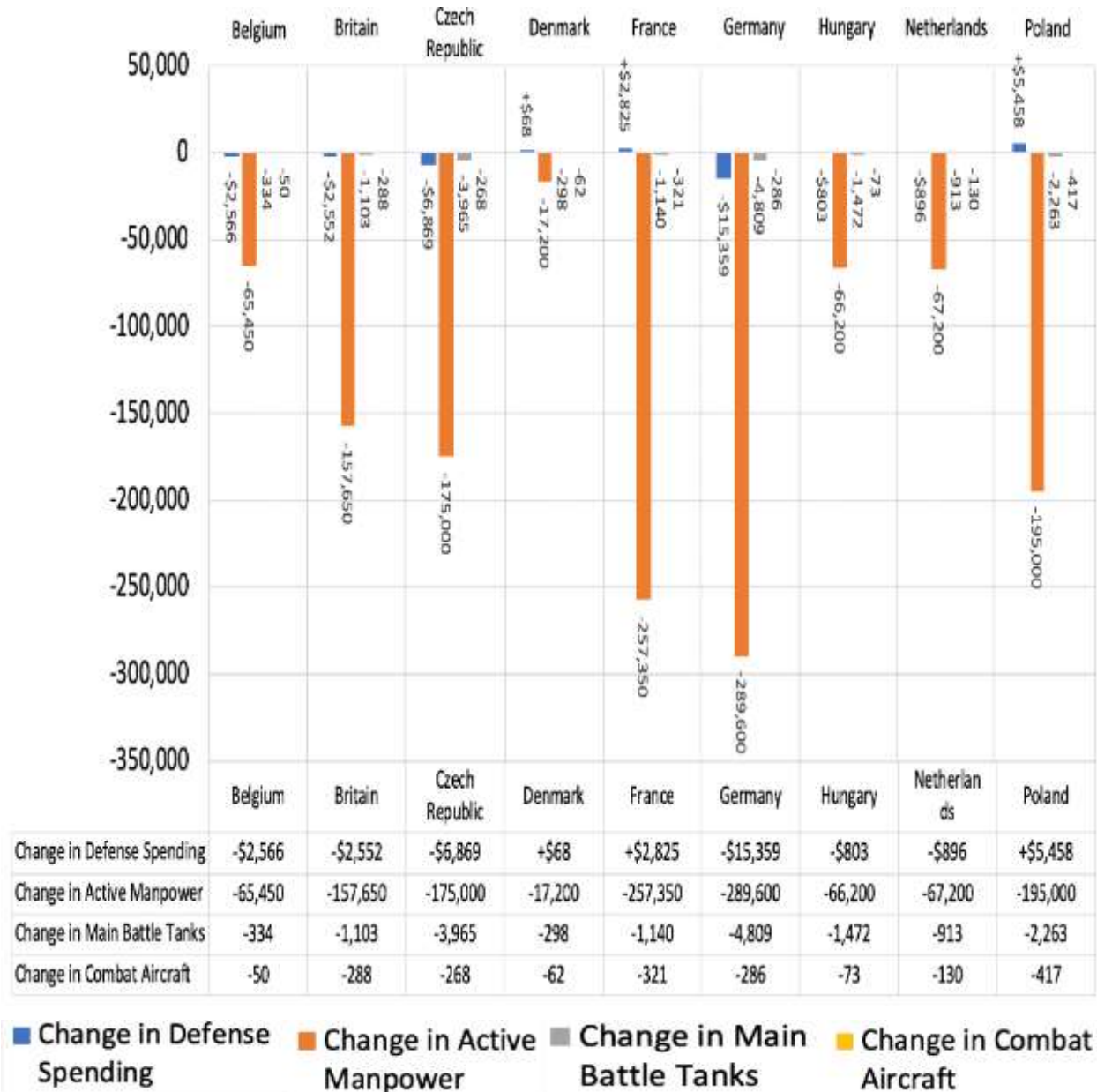
(Military Spending in \$US Millions in 2018 Constant Dollars)



Adapted by Maximillian Molot from the IISS *Military Balance, 1990-1991 and 2019*, and SIPRI *Military Expenditure Database* with spending data adjusted to constant \$2018 U.S. millions. Sources: SIPRI, *Military Expenditure Database, 2019*, <https://www.sipri.org/databases/milex>; and IISS, *Military Balance, 1990-1991 and 2019*.

Figure Nine – Part Two
Numerical Change in Spending, Personnel, and Major Weapons 1990-2018
(Europe - Central Region)

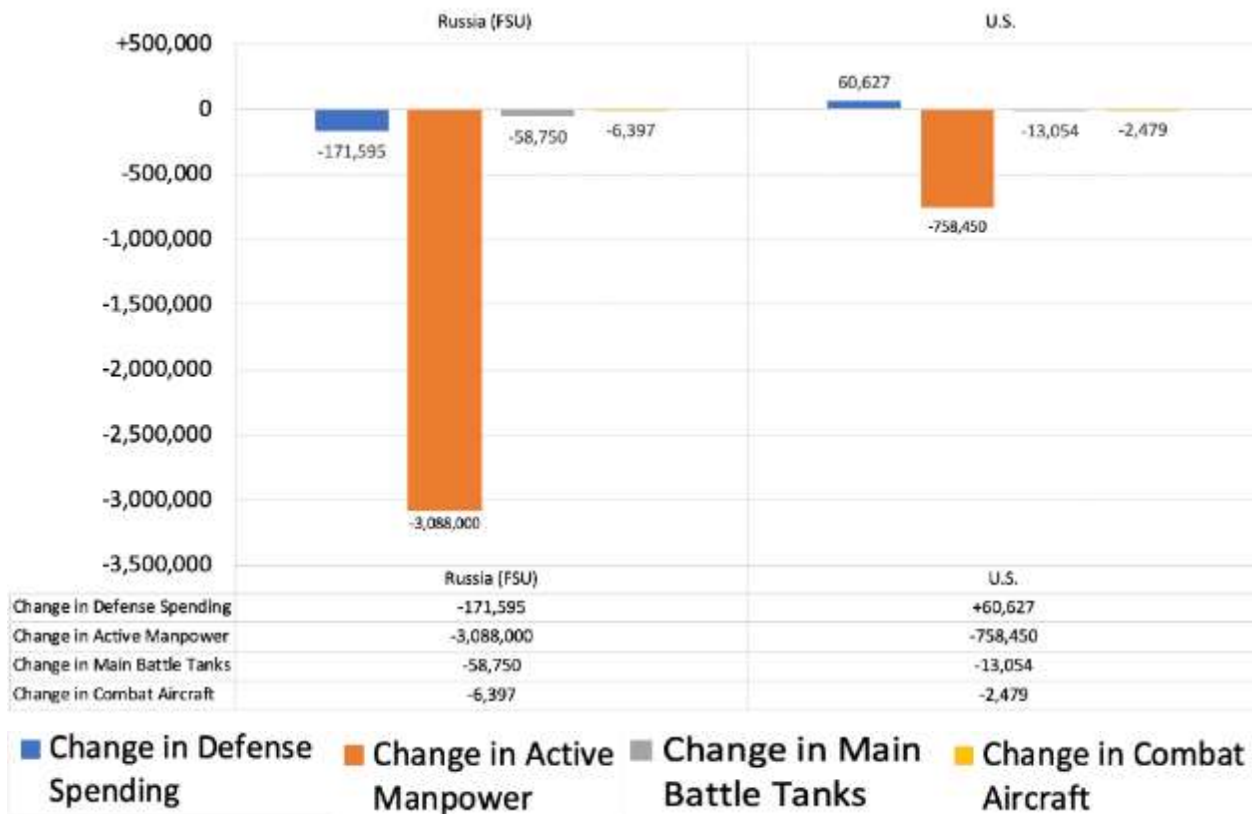
(Military Spending in \$US Millions in 2018 Constant Dollars)



Adapted by Maximillian Molot from the IISS *Military Balance, 1990-1991* and *2019*, and SIPRI *Military Expenditure Database* with spending data adjusted to constant \$2018 U.S. millions. Sources: SIPRI, *Military Expenditure Database, 2019*, <https://www.sipri.org/databases/milex>; and IISS, *Military Balance, 1990-1991* and *2019*.

Figure Nine – Part Three
Numerical Change in Spending, Personnel, and Major Weapons 1990-2018
(Total Russia vs. FSU and U.S.)

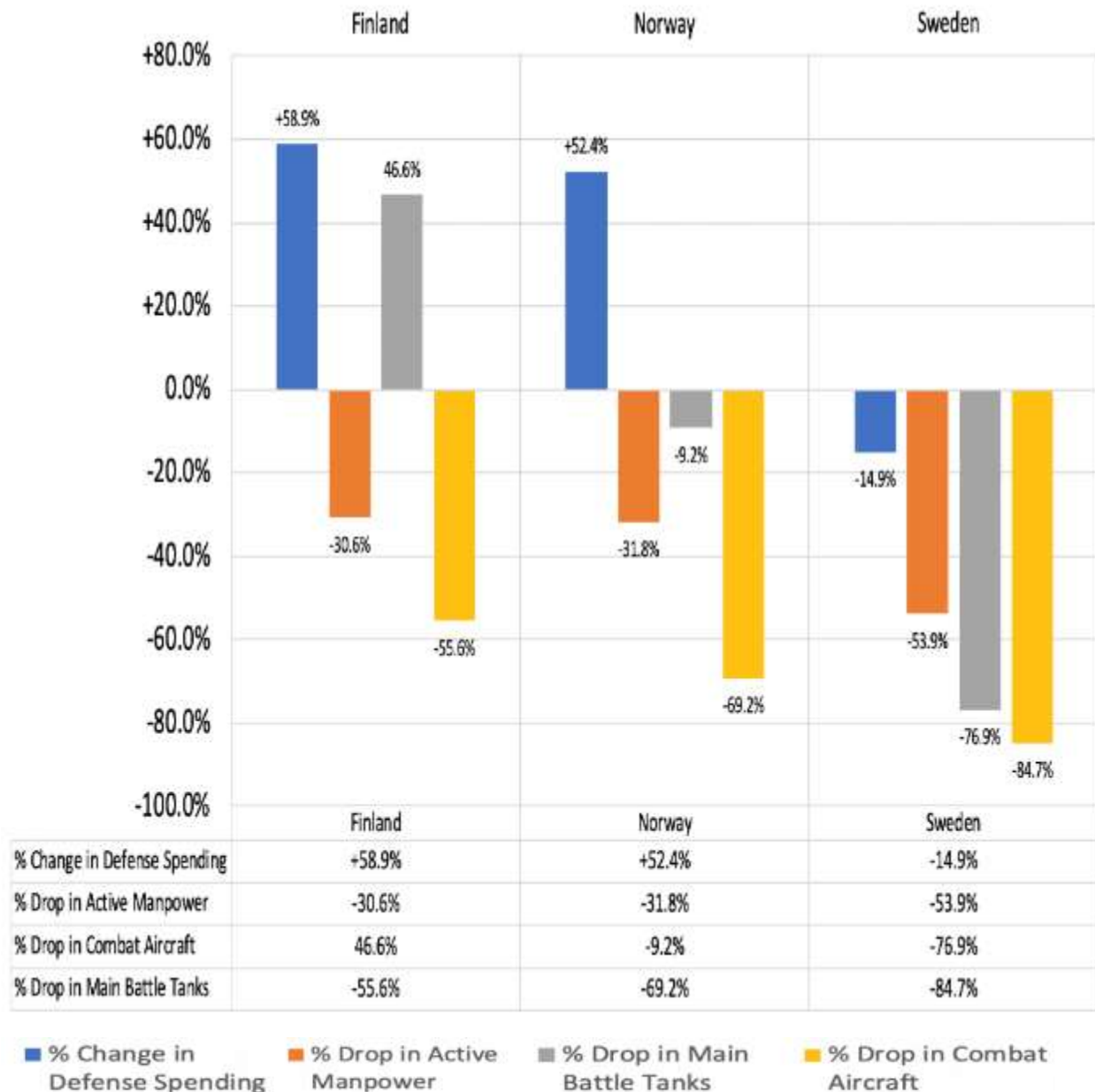
(Military Spending in \$US Millions in 2018 Constant Dollars)



Adapted by Maximillian Molot from the IISS *Military Balance, 1990-1991 and 2019*, and SIPRI *Military Expenditure Database* with spending data adjusted to constant \$2018 U.S. millions. Sources: SIPRI, *Military Expenditure Database, 2019*, <https://www.sipri.org/databases/milex>; and IISS, *Military Balance, 1990-1991 and 2019*.

Figure Ten – Part One
Percentage Change in Spending, Personnel, and Major Weapons 1990-2018
(Northern Region)

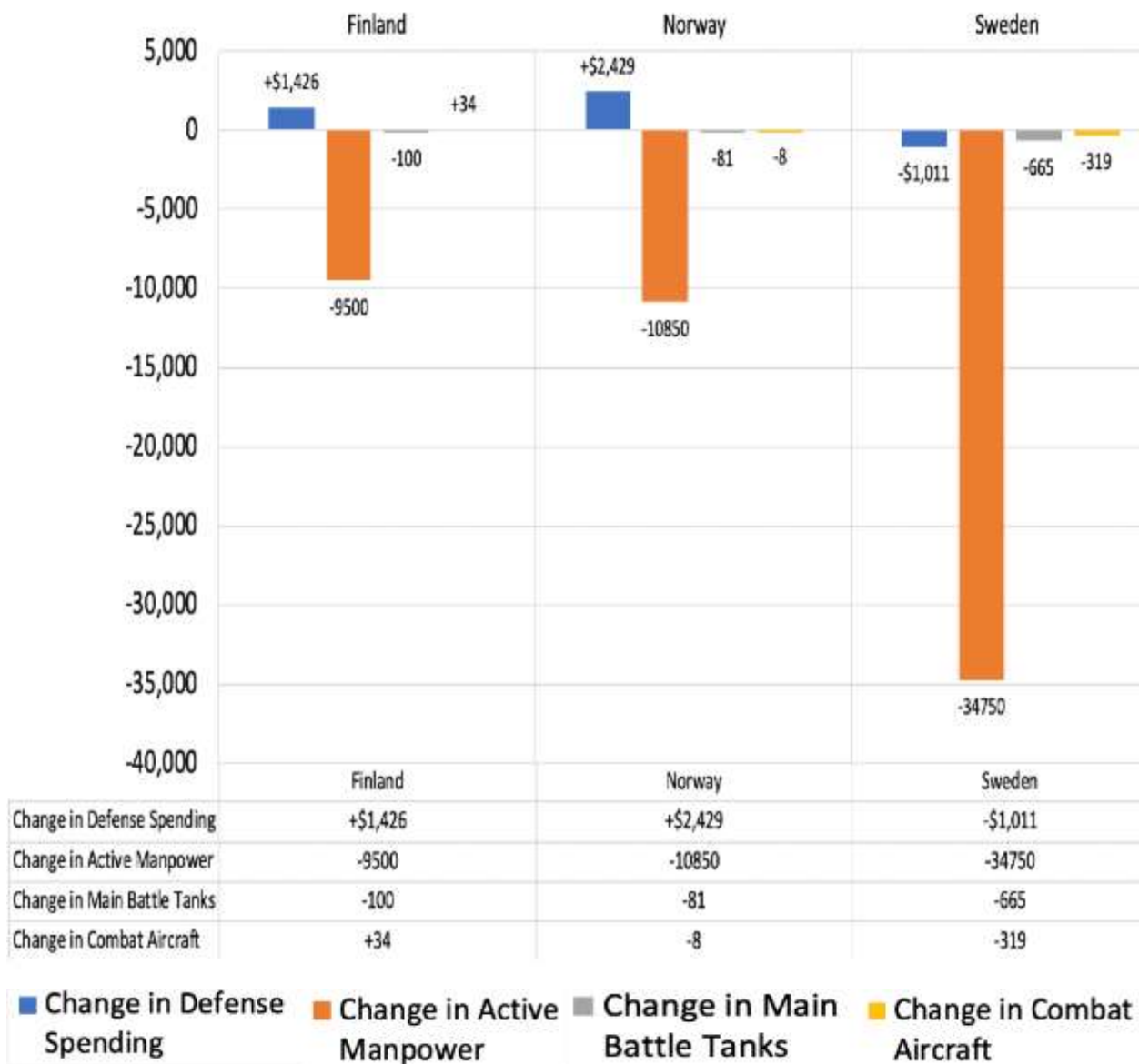
(Military Spending in \$US Millions in 2018 Constant Dollars)



Adapted by Maximillian Molot from the IISS *Military Balance, 1990-1991 and 2019*, and SIPRI *Military Expenditure Database* with spending data adjusted to constant \$2018 U.S. millions. Sources: SIPRI, *Military Expenditure Database, 2019*, <https://www.sipri.org/databases/milex>; and IISS, *Military Balance, 1990-1991 and 2019*.

Figure Ten – Part Two
Numerical Change in Spending, Personnel, and Major Weapons 1990-2018
(Northern Region)

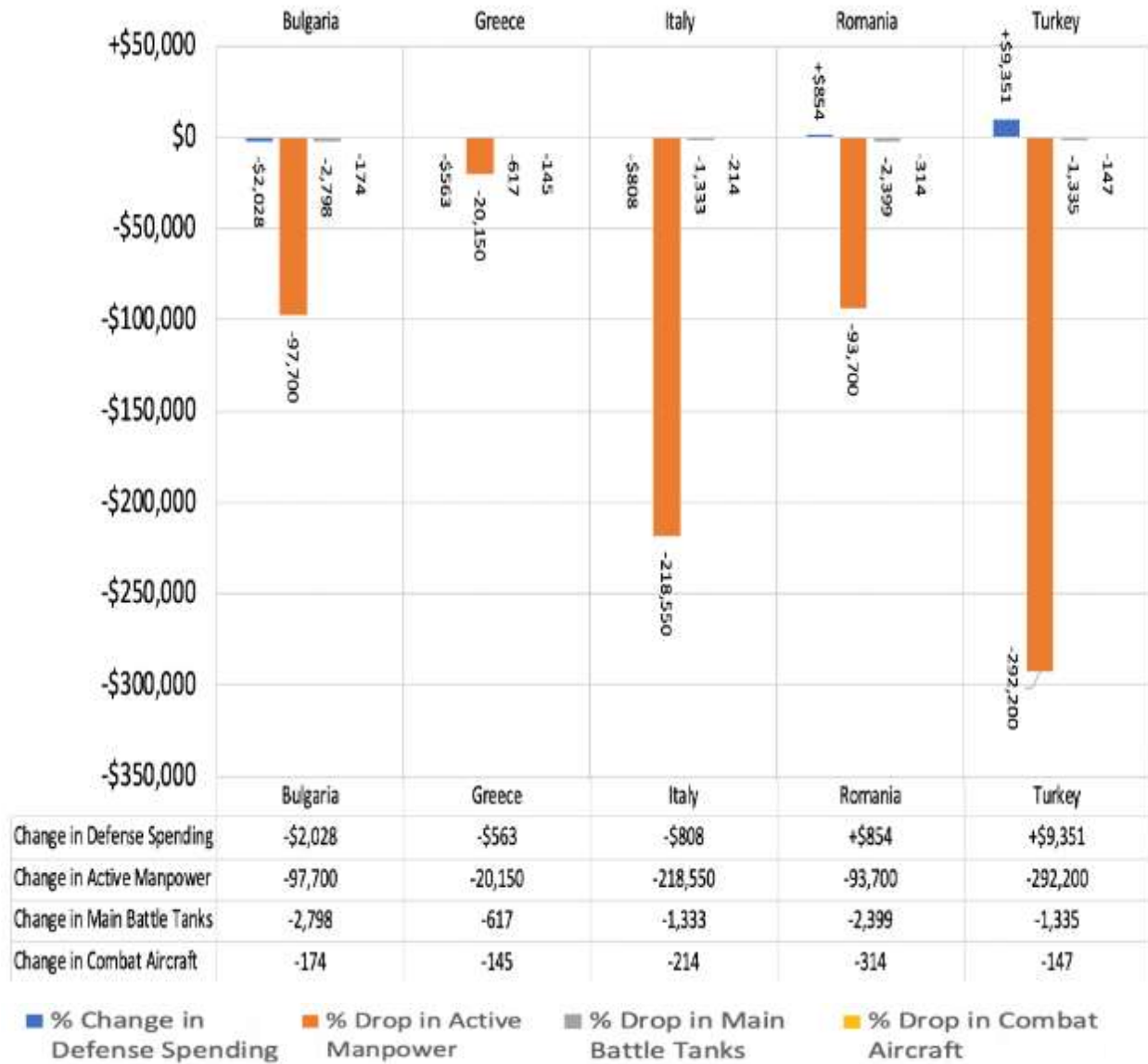
(Military Spending in \$US Millions in 2018 Constant Dollars)



Adapted by Maximillian Molot from the IISS *Military Balance, 1990-1991 and 2019*, and SIPRI *Military Expenditure Database* with spending data adjusted to constant \$2018 U.S. millions. Sources: SIPRI, *Military Expenditure Database, 2019*, <https://www.sipri.org/databases/milex>; and IISS, *Military Balance, 1990-1991 and 2019*.

Figure Eleven – Part One
Percentage Change in Spending, Personnel, and Major Weapons 1990-2018
(Southern Region)

(Military Spending in \$US Millions in 2018 Constant Dollars)



Adapted by Maximillian Molot from the IISS *Military Balance, 1990-1991 and 2019*, and SIPRI *Military Expenditure Database* with spending data adjusted to constant \$2018 U.S. millions. Sources: SIPRI, *Military Expenditure Database, 2019*, <https://www.sipri.org/databases/milex>; and IISS, *Military Balance, 1990-1991 and 2019*.

Figure Eleven – Part Two
Numerical Change in Spending, Personnel, and Major Weapons 1990-2018
(Europe - Southern Region)

(Military Spending in \$US Millions in 2018 Constant Dollars)



Adapted by Maximillian Molot from the IISS *Military Balance, 1990-1991 and 2019*, and SIPRI *Military Expenditure Database* with spending data adjusted to constant \$2018 U.S. millions. Sources: SIPRI, *Military Expenditure Database, 2019*, <https://www.sipri.org/databases/milex>; and IISS, *Military Balance, 1990-1991 and 2019*.

The Focus on Spending at least 20% of Annual Defense Expenditure on Major New Equipment — Including Related Research and Development — May Be Even Sillier than the 2% of GDP Goal

It is equally obvious from reviewing the trends in investment that national equipment spending can be focused on the wrong expenditures in terms of NATO's overall priorities, and that some countries are supporting national economies and industry in ways that produce limited interoperability and positive impact on NATO's overall mission priorities.

Even a cursory examination of the first part of **Figure Twelve** shows how silly – and close to “brain death” – the 20% of Annual Defense Expenditure on Major New Equipment goal really is. The most “successful” investor is Luxembourg?

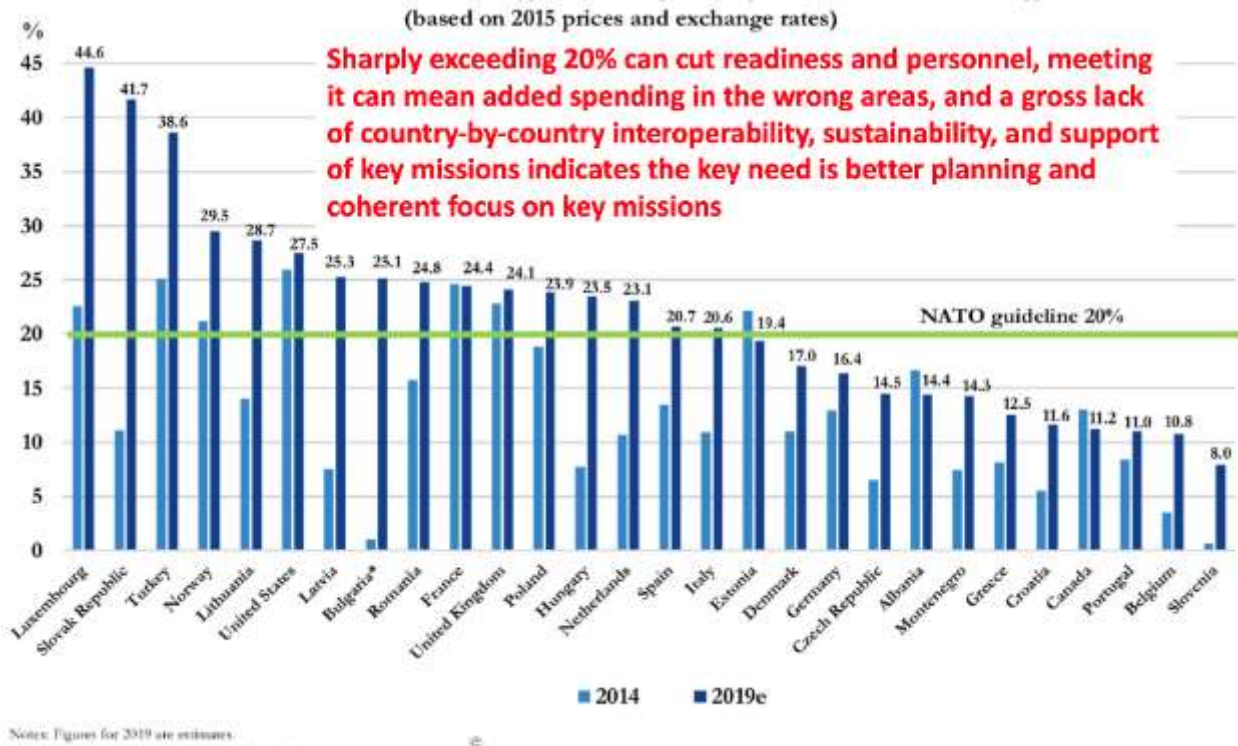
More seriously, anyone who has seriously examined the patterns of fleet modernization of armor, aircraft, and ships by country will immediately recognize that meeting or not meeting the 20% goal says nothing about getting the right pace of modernization and making the right trade-offs between force strength, modernization, and readiness.

Anyone familiar with real world defense politics also realizes that such open-ended goals are almost an invitation to subsidize national defense industries instead of focus on real military needs, interoperability, and developing and buying the best equipment and the equipment that is really needed.

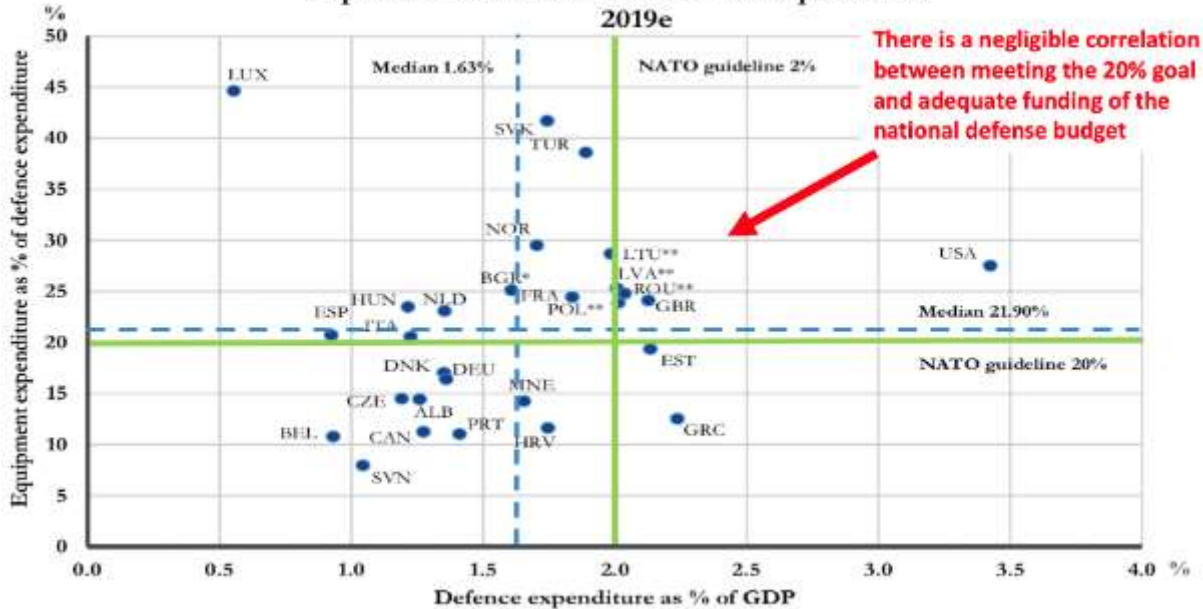
The second part of **Figure Twelve** reinforces the evidence that there is no clear correlation between a high equipment percentage and an adequate level of national defense spending. Separating the two goals without serious net assessment, force planning, and NATO military review of national R&D and equipment plans makes about as much sense as cutting the head off a chicken and then trying to make it run in two different directions.

Still another way to look at the inherent absurdity of NATO's current spending goals is to examine the level of real-world force development in countries that do meet both the NATO GDP and equipment goals. Here, the IISS again provides useful recent insights. **Figure Thirteen** shows that the United Kingdom – which did exceed both the 2% of GDP spending level and 20% on equipment goal – has far lower forces than in 1989, and it now has the equivalent of a “hollow” army and serious modernization and force level issues in its navy and air force. The 2% of GDP goal, and 20% on equipment goal, can be nonsense even when countries meet them.

Figure Twelve: The 20% of Defense Spending on Equipment May Be Even Sillier



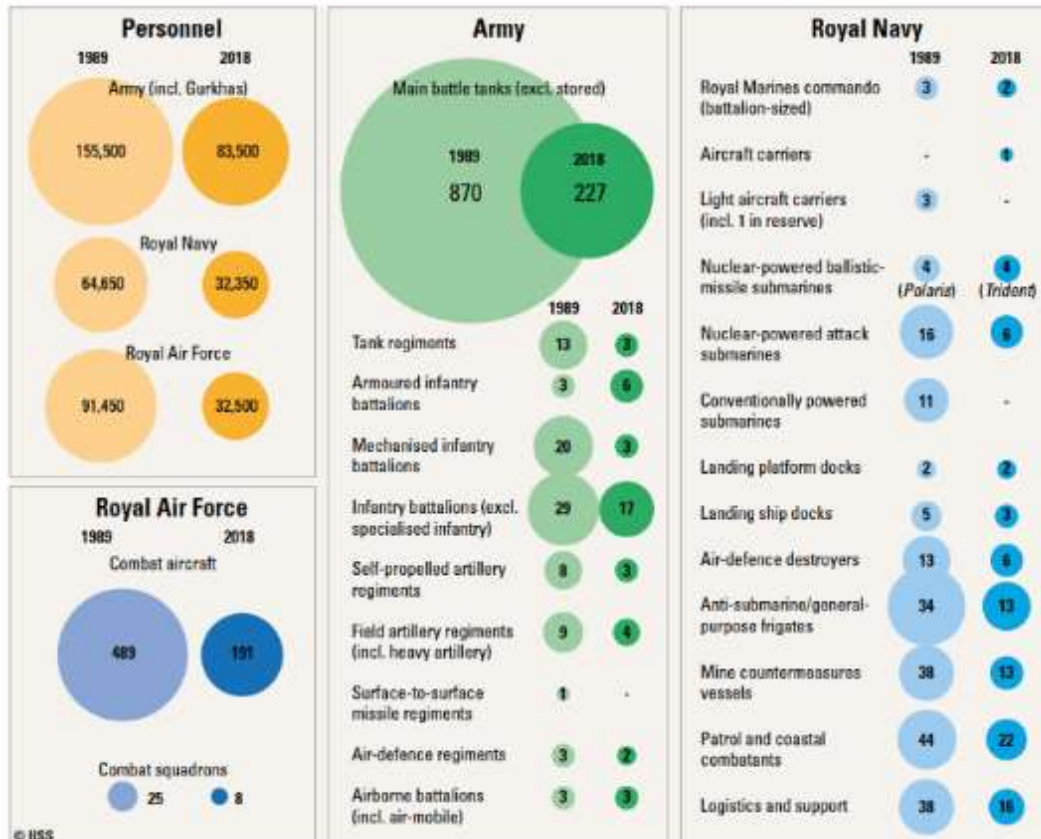
Graph 2 : Defence expenditure as a share of GDP and equipment expenditure as a share of defence expenditure



Source: NATO, *Defence Expenditure of NATO Countries (2012-2019)*, *Communique*, PR/CP(2019)069, June 25, 2019, pp. 2-3.

Figure Thirteen:

“High” % of GDP and Equipment Spending Countries Can Have Shrinking Forces: The UK is at 2.2% of GDP, and 23.9% of Equipment, but Its 2018 Force and Major Equipment Strength is Far Lower than in 1989



Source: IISS, *Military Balance*, 2019, p. 83.

Dishonesty is Worse than “Brain Death:” The U.S. Needs to Stop Lying and Bullying About Its 70% Share of NATO

Finally, other data show that it is time that NATO Europe did a little counter-bullying in dealing with the United States. **Figure Fourteen** shows all too clearly that the economic burden of United States defense spending has declined, and that much of the past rise in U.S. spending went to wars outside the NATO area – spending that created readiness and power projection deficits in U.S. capabilities for NATO that will take at least another half decade to correct.

Figure Fifteen, Figure Sixteen, and Figure Seventeen show that the United States has grossly exaggerated its role in NATO when it claims credit for its total defense spending, rather than the cost of the forces actually deployed or dedicated to NATO. This is the source of the 70% figure reported by the Secretary General.

Back at the time of the Cold War, Senator Nunn and Senator Warner pushed the Department of Defense into actually estimating how much of U.S. defense spending actually could be attributed to NATO. There does not seem to be any clear record of how the resulting estimates were derived, but several people who served in the Senate Armed Services Committee indicate that even during the Cold War, the estimates ranged somewhere between 27% and 33%.

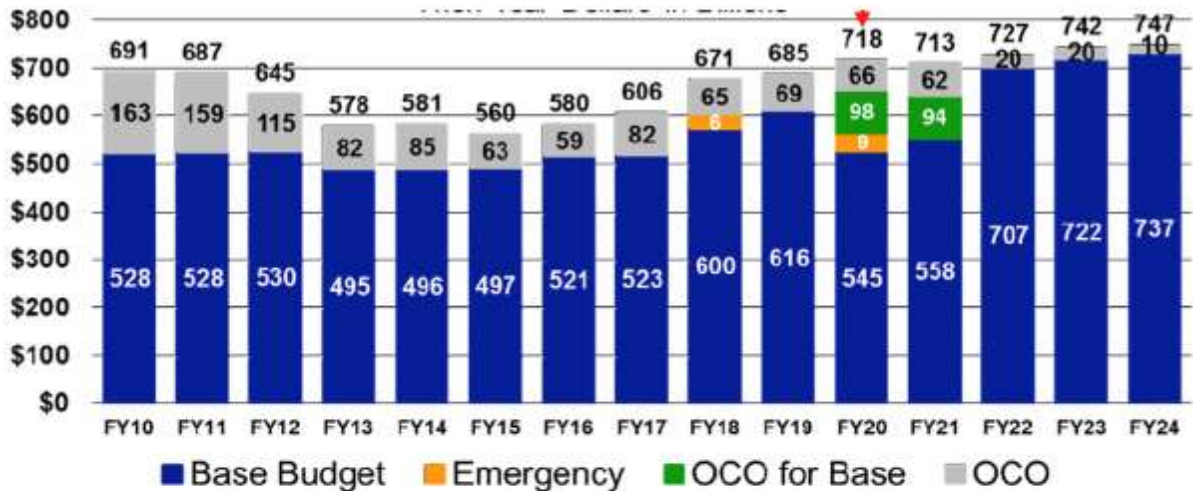
The U.S. has since cut its forward deployments back to a small fraction of their Cold War levels. It does have major power projection forces that should be credited in part for their potential role in NATO. However, the U.S. only deployed 14% of its active forces overseas in March 2019, and only 3% were forward deployed in NATO Europe on a permanent basis.

It is unclear that even the most generous estimate of real-world deployment capability would credit the U.S. with devoting even 30% of its forces to NATO, and it's clear that the U.S. has been deploying many of these potential capabilities to the Middle East and Asia for more than a decade – often staging its out of area operations through its NATO allies. It is also clear that that some European allies have made an important contribution to Resolute Support in Afghanistan, and other U.S. or European out of area operations against extremists and terrorists.

*Even a brief crisis with Russia that forced the U.S. to deploy major forces to Europe to deter or defend against Europe, or to rush to rebuild its forces in Europe – would also almost certainly be far more costly than maintaining effective U.S. support for its European allies. ***Ironically, failing to support NATO amounts to "brain death" as much from a transactional viewpoint as from the perspective that NATO is a vital element of U.S. national security.****

Figure Fourteen:
The United States’ Declining Defense Burden

Discretionary Budget Authority in Then Year (Current) Dollars in Billions



DoD Outlays as a Percent of Gross Domestic Product (GDP) FY 1953 – FY 2024



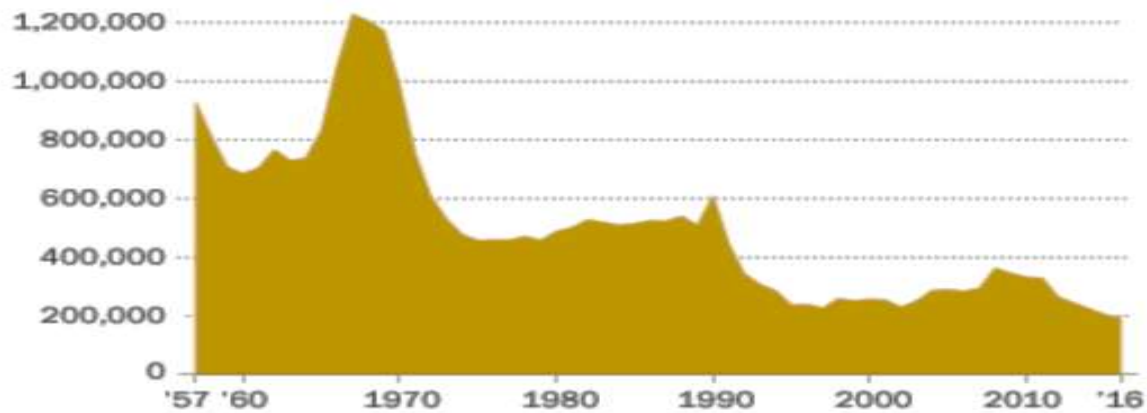
Source: OSD Comptroller, *FY2020 Budget Summary – A Strategy Driven Budget*, Department of Defense, February 2019, pp. 1-4 and 1-13.

Figure Fifteen:

The U.S. Does Not Fund 70%. The U.S. Overseas Burden Has Dropped and Only a Fraction of U.S. Forces are Normally Assigned to Europe

U.S. military overseas presence is at a 60-year low

Number of active-duty personnel overseas



Notes: Estimates are as of Sept. 30 in each year. Figures represent U.S. active-duty Army, Navy, Marine Corps and Air Force personnel overseas. They exclude the U.S. Coast Guard, National Guard, reserve and civilian personnel, as well as troops in the U.S. and its territories.
Source: Defense Manpower Data Center.

PEW RESEARCH CENTER

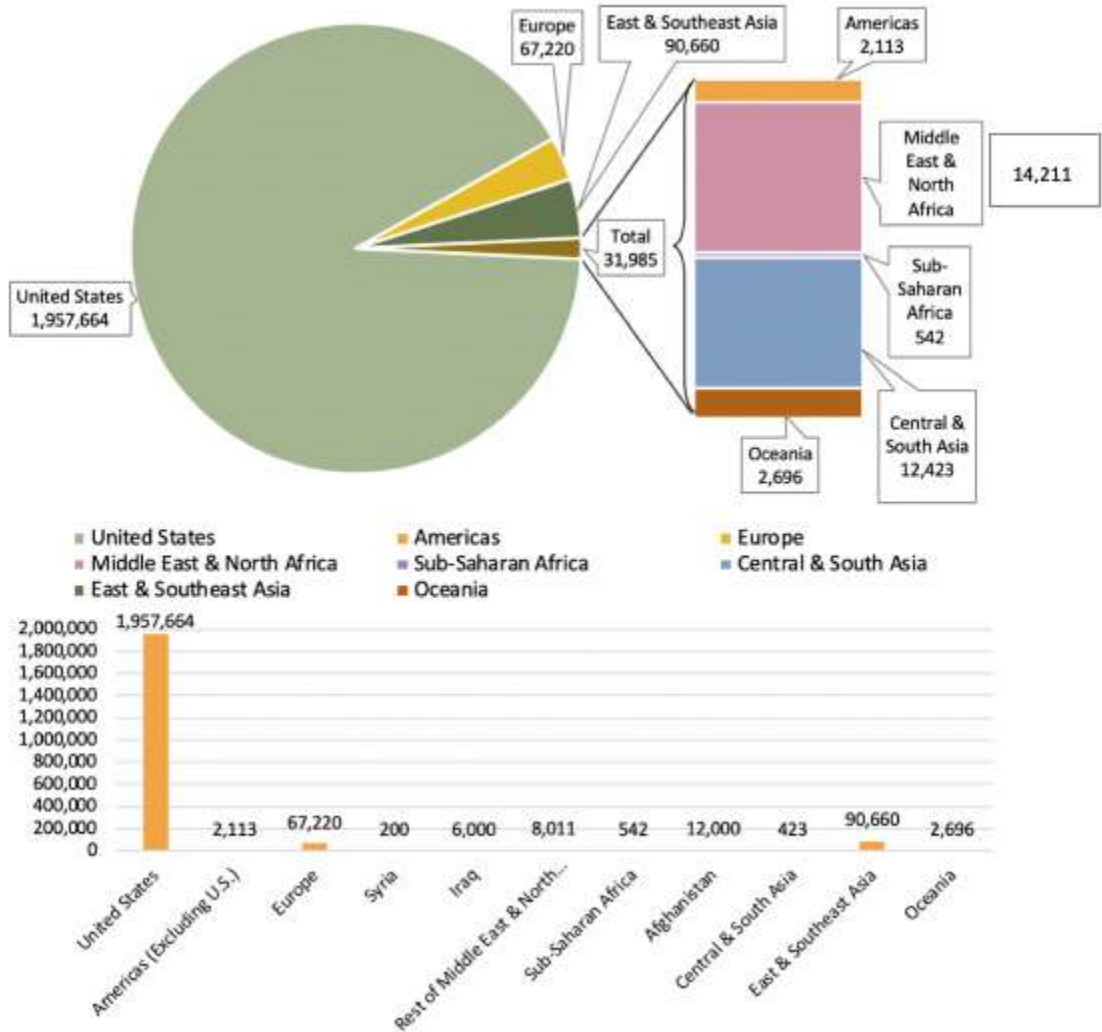
U.S. Deployments in March 2019

Country	Actives	Reserves	Total	Civilian
Total	1,345,360	800,183	2,216,268	744,529
In US	1,172,328	779,651	1,951,979	772,971
-	87%			
Total Overseas	173,072	20,532	193,604	33,537
	13.0%	14.3%		
Europe	65,973	615	66,588	16,809
- % Total	4.9%	-		
- % Overseas	38.1%	3.0%		
NATO	65,626	615	66,241	16,802
- % Total	4.8%	-		
- % Overseas	37.9%	3.0%		

Source: Kristen Bialik, U.S. active-duty military presence overseas is at its smallest in decades, PEW Trust, <https://www.pewresearch.org/fact-tank/2017/08/22/u-s-active-duty-military-presence-overseas-is-at-its-smallest-in-decades>, August 22, 2017. * **IISS Military Balance, 2019reported total of 70,979 in Europe in 2018.

Figure Sixteen:
U.S. Global versus European Deployments

Total in U.S: 1,957,664 (91%). Total Overseas: 189,865 (9%). Total Worldwide: 2,147,529

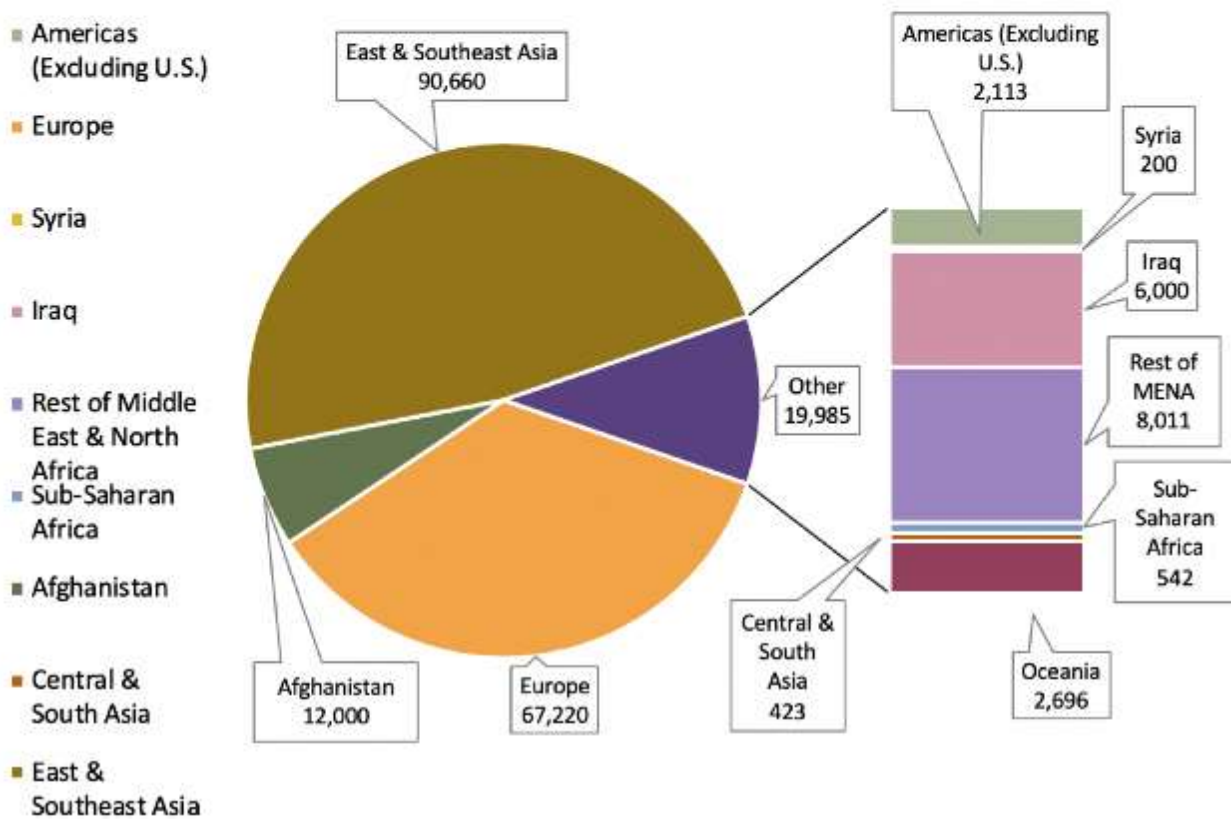


These troop counts are as of June 2019, and do not account for recent announcements of new troop deployments, except for current deployments to Syria, Iraq, and Afghanistan which are not included in the DoD database, and which are therefore filled in from reports. Furthermore, these numbers are based on soldiers’ permanent stations and does not account for temporary duty (TDY) locations.

Source: “DoD Workforce Report on Military and Civilian Personnel by Service/Agency by State/Country,” *Defense Manpower Data Center*, June 2019, https://www.dmdc.osd.mil/appj/dwp/dwp_reports.jsp. Troop numbers in Syria, Iraq, and Afghanistan are based on current reporting, found at: Gibbons-Neff, Thomas, and Eric Schmitt. “Despite Vow to End ‘Endless Wars,’ Here’s Where About 200,000 Troops Remain.” *New York Times*, October 21, 2019. <https://www.nytimes.com/2019/10/21/world/middleeast/us-troops-deployments.html>

**Figure Seventeen:
Current U.S. Overseas PCS Deployments**

- **70% for NATO? Only 9% of U.S. Forces are Overseas.**
- **Only 3.4% of US. Force I – and 35% of All US. Overseas Deployments -- are in Europe**



*Source: “DoD Workforce Report on Military and Civilian Personnel by Service/Agency by State/Country,” *Defense Manpower Data Center*, June 2019, https://www.dmdc.osd.mil/appj/dwp/dwp_reports.jsp. Troop numbers in Syria, Iraq, and Afghanistan are based on current reporting, found at: Gibbons-Neff, Thomas, and Eric Schmitt. “Despite Vow to End ‘Endless Wars,’ Here’s Where About 200,000 Troops Remain.” *New York Times*, October 21, 2019. <https://www.nytimes.com/2019/10/21/world/middleeast/us-troops-deployments.html>

Selecting the Right Investment, Force Strength and Readiness Needs

Pointless goals and U.S. bullying will not build a better NATO Alliance, deter Russia, or enhance Transatlantic security. NATO force planning – and member country programming, planning, and budgeting – should focus on meeting properly balanced, *Alliance-wide* investment, force strength, and readiness needs. The proper tools for planning were established in the NATO Force Planning Exercise in the early to mid-1960s, and refined in the staff work for MBFR and CFE. They are still used in part by the NATO military and International Staff, and they are very different from any concern with 2% and 20%.

NATO should begin by setting its priorities and force goals on the basis of a full net assessment of the balance. It should consider the full range of Russia's capabilities for hybrid, conventional, and nuclear warfare. These net assessments should be used to set clear near and mid-term priorities for deterring and defending against Russia, although such assessments should also be used to define the contingency capabilities NATO needs to deal with the threat of extremism and terrorism and out of area missions. In the case of Russia, NATO should focus on deterrence, but recognize that the level of deterrence is often determined by actual warfighting and contingency capability.

NATO force planning – and the assessment of national planning, programming, and budget activity – should also focus on the differences in the force structures and capabilities of member states, and on finding ways to forge them into a truly effective alliance. It should focus on nation-by-nation efforts to improving key mission capabilities – balancing force strength, readiness, and modernization. It should also look beyond the current annual budget cycle and set rolling force goals at least five years in the future.

It is always tempting to suggest what the key priorities should be, but only NATO and member state military planners can properly determine which Alliance-wide and sub-regional mission priorities are most important in shaping the force planning for any given country. National force structures, resources, and capabilities are so diverse that no country will have the same needs as any other.

However, the list of potential priorities shown below at least provides illustrative examples of how total spending might be judged by mission and military capability, and analyzed on a NATO-wide and sub-regional basis.

- Cyber
- Readiness and Modernization of Conventional Core Forces – Army/Artillery/Surface/ASW/Air Fleets
- Air/Missile Defense
- Forward deterrence
- Theater nuclear, precision strike, hypersonic
- Space
- Hybrid/Counterextremism/Counterterrorism
- Jointness and interoperability
- C4I/battle management
- Intelligence, surveillance, and reconnaissance
- Rapid deployment and sustainability – at all levels from A2/D2 to forward area
- Net assessment and force planning
- Training, exercise, simulation

- AI support

The goals behind investment in modernization and equipment should be determined in the same way. Once again, spending more should not be the priority. Spending wisely should be.

Nations need to invest in ways that focus on the right *NATO* missions and priorities. They need to invest in ways that ensure interoperability, achieve synergy between member countries wherever possible, and exploit the relative weaknesses of the potential threat. *NATO* will have to give suitable priority to its most urgent near-term needs, but it should also fully recognize the need to look at least five years in the future and ensure that spending develops the right mission capabilities over time. It is these mission capabilities that will matter, not spending 2% or 20%.

NATO also needs to make such efforts transparent, and debate defense and force planning issues with the same openness that the Western democracies debate domestic issues. *NATO* must communicate to earn public confidence and get the resources and support it needs, and engage outside criticism and debate. *NATO* and national staffs must also accept the fact that major *NATO* plans and activities cannot be kept secret. Major defense plans and activities have too much visibility, and over-classification is likely to do more to confuse *NATO* efforts than a potential threat.

Finally, *NATO* military and civilian staffs need the authority to criticize and analyze on a country-by-country basis, and not simply rubber-stamp national plans. They need the authority to report even when some aspects of what they report can embarrass member countries. Above all, the U.S. – and all member countries – should approach force planning from the view of creating an effective partnership – not bullying other states or using *NATO* politics and ministerial meetings to get other nations to do more so that they can do less.

Other Burke Chair analyses of these issues include:

- *NATO: Going From the 2% Non-Solution to Meaningful Planning*, June 26, 2019, <https://www.csis.org/analysis/nato-going-2-non-solution-meaningful-planning>
- *Shaping U.S. Strategy to Meet America's Real-World Needs*, June 4, 2019, <https://www.csis.org/analysis/shaping-us-strategy-meet-americas-real-world-needs>
- *The FY2020 Defense Budget Request and the Need for a Real "Strategy Driven" Budget*, April 1, 2019, <https://www.csis.org/analysis/fy2020-defense-budget-request-and-need-real-strategy-driven-budget>
- *The U.S., NATO, and the Defense of Europe: Shaping the Right Ministerial Force Goals*, June 27, 2018, https://csis-prod.s3.amazonaws.com/s3fs-public/publication/180627_US_NATO.Report.pdf?9jrlB.LEVnm9MvWGjS6Nyc3EKf3yD.E6

Appendix A: Trends in Selected NATO Country Land and Force Strength by Country: 1990 versus 2018

- **Figure A-1: Russia, Belarus, US and Central Region States – I**
- **Figure A-1: Russia, Belarus, US and Central Region States – II**
- **Figure A-2: Map of NATO's New Central Region**
- **Figure A-3: NATO Northern Region and Other States 1990-2018**
- **Figure A-4: Map of NATO's New Northern Region**
- **Figure A-5: NATO Southern Region States 1990-2018**
- **Figure A-6: Map of NATO's New Southern Region**

Figure A-1: Russia, Belarus, US and Central Region States – I

Russia, Belarus, US and NATO Central Region States 1990-2018 - I

Category	Illustrative Cuts in Central Region Spending and Conventional Land and Air Forces and Spending: 1990 vs. 2018 (Part 1)															
	USSR		Russia		Belarus		U.S.		Germany		Britain		France			
	1990	2018	% Change	2018	% Change	2018	% Change	1990	2018	% Change	1990	2018	% Change	1990	2018	% Change
Total Spending*	212,982	61,398	-74%				+10%	588,171	648,798	+10%	64,830	49,977	-24%	52,549	60,974	+15%
Active Manpower	3,988,000	900,000	-77%	43,359			-36%	2,117,500	1,359,650		669,800	179,491	-62%	306,000	461,250	+50%
Army Manpower	1,473,000	380,000	-81%	10,700			-37%	763,100	476,300		303,800	61,700	-80%	152,000	288,550	+88%
Main Battle Tanks	61,500	2,750	-96%	542			-85%	15,440	2,386		5,945	236	-96%	1,338	1,340	+0%
OAFVs	37,000	6,850	-81%	1,664			-24%	6,289	4,810		2,546	763	-71%	1,616	2,610	+61%
APCs	50,000+	6,100+	-88%	50			-60%	26,480	10,547		3,636	1,246	-64%	3,950	4,131	+4%
Total Artillery	66,880	4,520+	-94%	580			-11%	6,678	5,401		2,492	223	-97%	717	1,337	+86%
SP	9,000	1,600	-82%	330			-72%	3,446	965		812	113	-87%	346	394	+14%
Towed	33,000	150	-99.5%	72			-41%	2,259	1,339		460	-	-	367	377	+3%
Gun/Mortar	1,200	190+	-84%	-			-	-	2,507		-	-	90	-	-	
MBL	8,000	802+	-90%	164			+61%	373	600		215	20	-94%	4	-	-
Armed Helicopters	2,650	375+	-86%	12			-56%	1,612	714		210	67	-68%	118	242	+104%
Air/Air Defense Manpower	1,020,000	165,000	-84%	11,750			-43%	571,000	325,000		106,800	27,600	-51%	89,000	32,500	-64%
Bombers	565	139	-75%	-			-57%	325	139		-	-	-	-	18	-
Other Total Combat	7,055	1,064	-85%	64			-63%	3,620	1,327		963	217	-57%	538	259	-52%
FGA/Fighter	-	-	-	-			-	-	-		144	129	-11%	-	154	+7%
Fighters	3,315	222	-93%	34			+91%	133	264		-	-	-	48	-	-
FGA	4,140	412	-90%	21			-60%	2,300	922		299	-	-	353	-	-
Anti-tank/attack	-	264	-	22			-75%	564	141		-	68	-	-	37	-
Recon	539	-	-	-			-	300	-		71	-	-	14	-	-
AEW/AWACS/C ¹	18	29	+100%	-			+52%	23	35		-	-	-	6	6	+0%
ECM/EW/ELINT	60	34	-43%	-			-	93+	36		-	-	-	21	3	-88%
IS&R	-	87	-	-			+142%	12	41		-	-	-	-	9	-
Major SAM Launchers	8,650	620	-93%	31+			-32%	703	480		250	31	-88%	64	-	-

* Spending in constant 2018 \$US millions

Adapted by Maximilian Molot from the ISS Military Balance, 1990-1991 and 2019, and SIPRI Military Expenditure Database with spending data adjusted to constant \$2018 U.S. millions

Figure A-1: Russia, Belarus, US and Central Region States – II

Russia, Belarus, US and NATO Central Region States 1990-2018 - II

Category	Poland		Netherlands		Belgium		Denmark		Czech Republic		Hungary		Slovakia	
	1990	2018	1990	2018	1990	2018	1990	2018	1990	2018	1990	2018	1990	2018
Total Spending*	6,133	11,596	12,139	11,243	7,526	4,900	4,100	4,228	9,579	2,710	2,445	1,642	2,445	1,642
% Change	+89%		-7%		-34%		+2%		-72%		-33%		-33%	
Active Manpower	312,800	117,880	102,600	35,400	92,000	26,550	31,700	14,500	198,200	23,200	94,000	27,800	94,000	27,800
% Change	-62%		-65%		-71%		-54%		-88%		-70%		-70%	
Army Manpower	206,600	61,200	63,000	18,850	68,700	9,750	19,400	6,900	125,700	12,250	72,000	18,650	72,000	18,650
% Change	-70%		-70%		-86%		-64%		-90%		-85%		-85%	
Main Battle Tanks	2,900	637	913	-	314	-	316	38	3,995	30	1,516	44	1,516	44
% Change	-78%		-		-		-89%		-99%		-97%		-97%	
OAFVs	2,210	2,043	973	346	806	73	52	44	3,745	261	1,042	120	1,042	120
% Change	-8%		-62%		-91%		-45%		-93%		-88%		-88%	
APCs	2,000	257	2,237	200	1,348	78	510	226	3,333	17	1,816	272	1,816	272
% Change	-87%		-91%		-94%		-57%		-99%		-85%		-85%	
Total Arty	2,359	815	849	119	379	80	553	24	3,685	96	1,084	31	1,084	31
% Change	-65%		-88%		-84%		-97%		-97%		-97%		-97%	
SP	593	427	298	18	207	-	76	12	520	48	172	31	172	31
% Change	-28%		-94%		-		-84%		-91%		-82%		-82%	
Towed	948	-	183	-	21	14	317	12	2,093	-	594	-	594	-
% Change	-		-		-33%		-96%		-		-		-	
Gun/Mortar	-	216	-	181	-	46	-	-	-	48	-	-	-	-
% Change	-		-		-		-		-		-	-	-	
MRL	262	180	22	-	-	-	-	-	854	-	58	-	58	-
% Change	-31%		-		-		-		-		-		-	
Armed Helicopters	100	28	-	28	-	-	-	-	135	17	64	11	64	11
% Change	-72%		-		-		-		-87%		-83%		-83%	
Air/Air Defense Manpower	83,600	18,700	17,400	8,850	18,800	5,700	6,900	2,900	44,800	5,850	22,000	5,750	22,000	5,750
% Change	-77%		-54%		-70%		-58%		-87%		-74%		-74%	
Bombers	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Total Combat	516	99	193	63	126	76	186	44	312	44	87	14	87	14
% Change	-81%		-67%		-40%		-58%		-86%		-84%		-84%	
FGA/Fighter	-	-	-	-	-	-	79	-	-	-	-	-	-	-
Fighters	351	32	78	61	36	58	-	44	185	-	60	-	60	-
% Change	-91%		-22%		+61%		-		-		-		-	
FGA	165	66	82	2	90	-	-	-	115	14	-	14	-	14
% Change	-60%		-98%		-		-		-88%		-		-	
Anti-tank/attack	-	-	-	-	-	-	-	-	12	21	27	-	27	-
% Change	-		-		-		-		+75%		-		-	
Rece	35	-	20	-	18	-	18	-	31	-	11	-	11	-
% Change	-		-		-		-		-		-		-	
AEW/AWACS(C ²)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ECM/EW/ELINT	-	-	-	-	-	-	-	-	2	-	-	-	-	-
IS&R	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Major SAM Launchers	?	38	80	20	39	-	36	-	250	-	62	-	62	-
% Change	-		-75%		-		-		-		-		-	

* Spending in constant 2018 \$US millions

Adapted by Maximilian Molot from the ISS Military Balance, 1990-1991 and 2019, and SIPRI Military Expenditure Database with spending data adjusted to constant \$2018 U.S. millions

Figure A-2: Map of NATO's New Central Region



Source: NATO, <https://www.nato.int/nato-on-the-map/#lat=57.51557231238317&lon=0.6303670144091029&zoom=0&layer=1>

Figure A-3: NATO and Other Northern Region States: 1990-2018

NATO and Other Northern Region States 1990-2018

Category	Illustrative Cuts in Northern Region Spending and Conventional Land and Air Forces: 1990 vs. 2018												
	Norway		Estonia		Latvia		Lithuania		Sweden		Finland		
	1990	2018	% Change	2018	2018	2018	2018	2018	1990	2018	1990	2018	% Change
Total Spending*	4,638	7,067	+52%	-	-	-	-	-	6,766	5,755	2,423	3,849	+59%
Active Manpower	34,100	23,250	-32%	6,600	6,210	6,210	19,850	19,850	64,500	29,750	31,000	21,500	-31%
Army Manpower	19,000	8,100	-57%	5,700	1,400	1,400	12,400	12,400	44,500	6,850	27,800	15,300	-45%
Main Battle Tanks	117	36	-69%	-	3	3	-	-	785	120	180	80	-56%
OAFVs	170	112	-34%	28	81	81	4	4	200	396	65	212	+226%
APCs	150	390	+160%	158	-	-	238	238	600	1,083	240	613	+155%
Total Arty	527	202	-62%	376	123	123	64	64	930	305	?	681	-67%
SP	126	24	-81%	-	47	47	16	16	30	23	-	40	-23%
Towed	276	-	-	66	23	23	18	18	990	-	492	324	-34%
Gun/Mortar	-	202	-	310	53	53	30	30	-	282	?	279+	-
MRL	-	-	-	-	-	-	-	-	-	-	?	56	-
Armed Helicopters	-	-	-	-	-	-	-	-	-	-	-	-	-
Air/Air Defense Manpower	9,100	3,600	-60%	500	430	430	1,200	1,200	8,000	2,700	1,800	2,700	+50%
Bombers	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Total Combat	87	79	-9%	-	-	-	-	-	415	96	73	107	+47%
FGA/Fighter	-	-	-	-	-	-	-	-	-	-	9	-	-
Fighters	20	57	+185%	-	-	-	-	-	99	-	64	-	-
FGA	62	16	-74%	-	-	-	-	-	211	96	-	62	-55%
Anti-tank/attack	-	-	-	-	-	-	-	-	-	-	-	-	-
Rece	-	-	-	-	-	-	-	-	48	-	8	-	-
AEW/AWACS/C ⁴	-	-	-	-	-	-	-	-	-	3	-	-	-
ECM/EW/ELINT	3	2	-33%	-	-	-	-	-	2	2	-	1	-
IS&R	-	-	-	-	-	-	-	-	-	-	-	-	-
Major SAM Launchers	128	-	-	-	-	-	-	-	?	1	-	-	-

* Spending in constant 2018 \$US millions

Adapted by Maximilian Molot from the ISS Military Balance, 1990-1991 and 2019, and SIPRI Military Expenditure Database with spending data adjusted to constant 2018 U.S. dollars

Figure A-4: Map of NATO's New Northern Region



Source: NATO, <https://www.nato.int/nato-on-the-map/#lat=57.51557231238317&lon=0.6303670144091029&zoom=0&layer=1>

Figure A-5: NATO's Southern Region States: 1990 vs. 2018

NATO Southern Region States 1990-2018

Category	Italy		Turkey		Greece		Romania		Bulgaria		Georgia		Armenia		
	1990	2018	% Change	1990	2018	% Change	1990	2018	% Change	1990	2018	% Change	1990	2018	
Total Spending*	26,615	27,808	-3%	9,617	13,957	+45%	5,790	5,227	-10%	3,748	4,669	+23%	3,123	1,896	-40%
Active Manpower	389,640	171,050	-56%	647,400	355,200	-45%	162,500	142,350	-12%	163,000	65,300	-59%	129,000	31,300	-76%
Army Manpower	269,000	99,950	-62%	525,000	260,200	-50%	117,000	93,500	-20%	126,000	36,000	-71%	97,000	15,300	-84%
Main Battle Tanks	1,533	200	-87%	3,714	2,379	-36%	1,945	1,328	-32%	2,817	418	-85%	2,888	90	-97%
OAFVs	6	687	+11350%	114	895	+685%	344	640	+86%	1,207	139	-89%	567	160	-72%
APCs	4,784	828	-83%	3,210	4,326	+35%	1,951	2,407	+23%	2,512	851	-66%	2,284	120	-95%
Total Artillery	1,955	1,018	-48%	4,191	7,799+	+86%	1,850	3,609	+95%	3,003	1,087	-71%	2,768	311	-89%
SP	283	193	-32%	538	1080	+101%	300	587	+96%	18	24	+33%	741	48	-94%
Towed	970	188	-81%	1,724	760+	+84%	884	557	-37%	1,539	449	-71%	1,128	24	-98%
Gun/Mortar	-	616	+616%	-	5,813+	+5813%	-	2,320	-	10	426	+4160%	-	215	-
MLR	2	21	+950%	26	146+	+454%	-	145	-	832	188	-77%	262	24	-91%
Armed Helicopters	-	36	+36%	-	77	+77%	10	38	+180%	-	-	-	70	6	-91%
Air/Air Defense Manpower	79,640	41,100	-48%	67,400	59,000	-12%	26,000	21,000	-19%	28,000	10,300	-63%	22,000	6,700	-70%
Bombers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Total Combat	405	211	-48%	455	368	-20%	376	231	-39%	370	56	-85%	195	21	-89%
FGA/Fighter	-	-	-	-	-	-	36	231	+531%	230	-	-	-	-	-
Fighters	84	86	+2%	18	27	+50%	183	-	-	110	12	-89%	140	15	-89%
FGA	283	48	-83%	375	351	-6%	181	-	-	-	24	-	40	-	-
Anti-tank/attack	-	34	+34%	-	-	-	36	-	-	-	-	-	-	-	-
Recon	18	-	-100%	28	-	-100%	43	-	-	-	-	-	35	-	-
AEW/AWACS/C ²	-	2	+2%	-	4	+4%	4	-	-	-	-	-	-	-	-
ECM/EW/EUIT	10	15	+50%	-	2+	+20%	-	-	-	-	-	-	-	-	-
IS&R	-	1	+100%	-	5	+500%	-	-	-	-	-	-	-	1	-
Major SAM Launchers	96	16	-83%	128	7	-95%	36	42	+17%	135	14	-90%	280	3	-99%

* Spending in constant 2018 \$US millions

Adapted by Maximilian Molot from the ISS Military Balance, 1990-1991 and 2019, and SIPRI Military Expenditure Database with spending data adjusted to constant \$2018 U.S. millions

Figure A-6: Map of NATO's New Southern Region



Source: NATO, <https://www.nato.int/nato-on-the-map/#lat=57.51557231238317&lon=0.6303670144091029&zoom=0&layer=1>

¹ NATO, *The Secretary General's Annual Report, 2018*, March 14, 2019, https://www.nato.int/nato_static_fl2014/assets/pdf/pdf_publications/20190315_sgar2018-en.pdf, p. 34.

² Defence Expenditure of NATO Countries (2012-2019), https://www.nato.int/cps/en/natohq/opinions_164187.htm, p.7.

³ The DoD estimate was taken from the FY2019 Budget Summary prepared by OSD Comptroller. The NATO estimate is taken from Defence Expenditure of NATO Countries (2012-2019), https://www.nato.int/cps/en/natohq/opinions_164187.htm , p.7.

⁴ Source: OFFICE OF THE SECRETARY OF DEFENSE, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China, China Military Power, 2019*, May 2019, p. 95.