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**U.S. GROUND FORCE CAPABILITY AND  
MODERNIZATION CHALLENGES  
IN EASTERN EUROPE**

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HEARING

BEFORE THE

SUBCOMMITTEE ON TACTICAL  
AIR AND LAND FORCES

OF THE

COMMITTEE ON ARMED SERVICES  
HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

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## **U.S. GROUND FORCE CAPABILITY AND MODERNIZATION CHALLENGES IN EASTERN EUROPE**

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HOUSE OF REPRESENTATIVES,  
COMMITTEE ON ARMED SERVICES,  
SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES,  
*Washington, DC, Wednesday, March 1, 2017.*

The subcommittee met, pursuant to call, at 3:41 p.m., in room 2212, Rayburn House Office Building, Hon. Michael R. Turner (chairman of the subcommittee) presiding.

### **OPENING STATEMENT OF HON. MICHAEL R. TURNER, A REPRESENTATIVE FROM OHIO, CHAIRMAN, SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES**

Mr. TURNER. The hearing will now come to order. Today we will receive testimony on the operational and strategic challenges facing the United States and NATO forces in deterring, as well as responding to, Russian aggression on the North Atlantic Treaty Organization's eastern flank, or NATO.

I would like to welcome our distinguished panel. Mr. David A. Shlapak, Senior International Research Analyst and Codirector, Center for Gaming, RAND Corporation. And by gaming we don't mean Vegas. We mean modeling, which I am not criticizing.

Mr. Timothy M. Bonds, Vice President, Army Research Division, and Director, RAND Arroyo Center.

Mr. Andrew P. Hunter, Director of Defense-Industrial Initiatives Group and Senior Fellow, International Security Program for the Center for Strategic and International Studies [CSIS].

Beginning with the invasion of Crimea in 2014, followed by incursions into East Ukraine, Russia continues to take aggressive actions in overturning European security. The Chairman of the Joint Chiefs of Staff, General Joseph Dunford, has stated that, quote, "Russia presents the greatest threat to our national security" and that, quote, [what] "they seek to do is to undermine credibility of our ability to meet our alliance commitments to NATO."

Reported just last week, a Russian intelligence collection ship was operating off the east coast of the United States. Russian military aircraft have made high-speed passes over U.S. naval ships operating in the Black Sea, and recent media reports indicate Russia has operationally deployed a new ground launch cruise missile that violates the Intermediate Range Nuclear Forces Treaty and directly threatens our NATO allies.

Secretary Mattis and Vice President Pence have reaffirmed the United States commitment to NATO, and have also made it clear that Russia would be held accountable for its actions.



As the former president of the NATO Parliamentary Assembly [PA] and current head of the U.S. delegation to the NATO PA, I am in agreement with the Secretary and the Vice President's position. NATO's first goal is to prevent conflict. And highly ready forward-deployed military forces contribute to this by deterring conventional conflict.

Actions have been taken by NATO in response to this continued Russian aggression. For example, at the Wales Summit, NATO heads of state established a readiness action plan and stood up an enhanced NATO response force.

The United States remains fully prepared to meet Article 5 commitments to NATO allies. However, if we are to rebuild a credible deterrent posture in Europe, the NATO nations also need to meet their agreed-upon goal of spending 2 percent of gross domestic product on defense. Only five nations today do so.

Despite taking these actions, a major challenge for the U.S. and NATO continues to be reestablishing a credible forward presence of ready military forces. The previous administration's strategy in Europe assumed that a small forward-deployed presence, augmented by a small rotational force, would provide a credible deterrent. That assumption has been proven wrong.

So reviewing our current force structure in Europe is an excellent place to start for understanding current gaps in the capability and capacity of our ground forces, and can be applied to ground forces writ large.

Besides the broader strategic policy implications of reassuring members of the NATO alliance, the witnesses today are prepared to discuss what is required by our ground forces from a modernization perspective in the near term to improve force posture and mitigate potential threats posed by Russia.

Of special interest to the subcommittee today are the findings and observations from the most recent RAND War Game Report 2016 on the Defense of the Baltics entitled, quote, "Reinforcing Deterrence on NATO's Eastern Flank." That raised alarming concerns regarding current U.S. and NATO military posture in Europe.

The European Reassurance Initiative and multilateral training exercises like Operation Atlantic Resolve have been good first steps in improving forward presence in Europe and reassuring our allies. However, the reality is that more resources and actions are needed. Given the threats posed by Russian aggression, we need to move from a posture of reassurance to a posture of deterrence; credible deterrence.

Finally, I want to close with a quote from Lieutenant General John W. Nicholson, the former commander of NATO's Allied Land Command. Quote: "Military readiness costs money, but the costs of readiness pale in comparison to the human and material costs of war."

Before we begin, I would like to go to my good friend and colleague from Massachusetts, Niki Tsongas, for her comments.

[The prepared statement of Mr. Turner can be found in the Appendix on page 33.]



**STATEMENT OF HON. NIKI TSONGAS, A REPRESENTATIVE  
FROM MASSACHUSETTS, RANKING MEMBER, SUBCOMMITTEE  
ON TACTICAL AIR AND LAND FORCES**

Ms. TSONGAS. Thank you, Mr. Chairman, and good afternoon and I want to welcome our witnesses and look forward to hearing from you.

As the United States confronts Western aggression in Eastern Europe, it underscores the importance of the NATO alliance, what Secretary of Defense Mattis has called, quote, “our strongest bulwark against instability and violence,” unquote. It is also prompts us to assess NATO’s current capabilities to credibly deter further Russian aggression, and to examine what additional investments the United States should or must make with our NATO allies. Keeping in mind, however, our ongoing fiscal constraints and a number of emerging and growing threats across the globe that are also top of mind.

In that context, today’s hearings are quite relevant, and I look forward to your testimony. And with that I yield back.

Mr. TURNER. Thank you. Without objection, all witnesses’ prepared statements will be included in the hearing record. We will begin with Mr. Shlapak, followed by Mr. Bonds; and then Mr. Hunter. Mr. Shlapak.

**STATEMENT OF DAVID A. SHLAPAK, SENIOR INTERNATIONAL  
RESEARCH ANALYST, CODIRECTOR, CENTER FOR GAMING,  
RAND CORPORATION**

Mr. SHLAPAK. Thank you.

Chairman Turner, Ranking Member Tsongas, members of the committee, I am honored by this opportunity to testify before you on this important topic.

The re-emergence of Russia as a disruptive force in global security is an event of historic significance, and RAND has been at work seeking to understand its implications since Russia’s annexation of Crimea unambiguously signaled its willingness to use force to revise the European security order. Among the first questions we asked was does this more assertive Russia pose a renewed military threat to NATO? I wish to be as clear and direct as our findings allow me to be. NATO is not postured or prepared to defend its most exposed and vulnerable member states, the Baltic Republics of Estonia, Latvia, and Lithuania, against a Russian attack.

In a series of war games conducted over the past 3 years, a short-warning Russian invasion of the Baltic States—and this is an entirely plausible scenario—one conducted in a way that allows NATO only about a week of warning, has consistently resulted in the catastrophic collapse of NATO’s defenses within 36 to 60 hours of the onset of hostilities. Such an operational defeat would leave the U.S. President and his Canadian and European counterparts with only bad strategic choices: build up forces and launch a bloody and costly counteroffensive, risking Russian nuclear escalation; escalate to the use of nuclear weapons themselves; or accept the Russian fait accompli, thereby conceding NATO’s utter failure to carry out its founding mission, which is to guarantee the territorial integrity and political independence of its member states.



Now whether or not NATO survives such a disaster, the Eurasian security order would be transformed in a way utterly contrary to American interests, and the United States credibility and reliability as an ally would almost certainly be called into question globally.

Fortunately, our work also indicates that avoiding this outcome and restoring a credible conventional deterrent along NATO's eastern frontier is both doable and affordable. A force of approximately seven NATO brigades ready to fight at the outset of hostilities, and supported by artillery and airpower, as well as proper logistical support, and command and control, appears sufficient to deny Russia a rapid victory.

With the prospect of inflicting a quick one-sided and devastating strategic defeat on its most threatening adversary off the table, the temptation for Moscow to attack the Baltics under even the most inviting or stressful circumstances would be greatly reduced. Deterrence would be enhanced.

Now key to the success of the seven brigade defending force is the incorporation of three heavy brigades, units equipped with tanks, infantry fighting vehicles, self-propelled artillery, and so on. Because these forces must be on the ground and ready to fight on D-Day, and are difficult to move across long distances, it would likely prove impossible to deploy them from the United States during a crisis, even if their equipment were prepositioned in Europe.

Questions remain to be addressed regarding the risks and benefits of various options for posturing these forces, but I believe that some form of forward basing of the heavy brigades, permanently stationing them in central or northeastern Europe, will prove necessary to have a sufficiently reliable, responsive, and robust deterrent.

Now to be clear, these seven brigades will require substantial reinforcements from both our NATO allies and ourselves in order to sustain the defense, and if necessary, eject the Russians from whatever territory they may come to occupy. This topic is addressed in greater detail in my written testimony.

It is vital to recognize that ultimately the success or failure of NATO in the Baltics is not just about the fate of three countries with the combined population of Missouri or collective economy the size of Iowa's. Instead it is about deterring, about preventing a conflict with the only country on earth that has the capacity to destroy the United States as a modern functioning society. Conflict with Russia must always be contemplated with full awareness of its consequences, not just for the people of Estonia or Latvia or Lithuania, but for those of Ohio, Massachusetts, Arizona, California, and every other citizen of the United States.

Let's look at this for a moment from a historical point of view. For 70 years, every administration and every Congress, on a bipartisan basis, has recognized the importance of a free, prosperous, and vital Europe to the safety and prosperity of our own Nation.

Since the fall of the Berlin Wall, we have enjoyed a respite from worrying about the basic security of the European order. That respite, ladies and gentlemen, is over. The United States and its allies are challenged once again from the east. We don't get to control



that. It is happening. What is in our hands, what is in your hands, is how we respond.

I thank you for your time and your attention and look forward to your questions.

[The prepared statement of Mr. Shlapak can be found in the Appendix on page 35.]

Mr. TURNER. Mr. Bonds.

**STATEMENT OF TIMOTHY M. BONDS, VICE PRESIDENT, RAND ARMY RESEARCH DIVISION, DIRECTOR, RAND ARROYO CENTER**

Mr. BONDS. Thank you, Chairman Turner, Ranking Member Tsongas, and members, for inviting me to speak with you today. It is an honor to be here.

As my colleague Dave Shlapak has just described the capabilities required to deter, or if deterrence fails, to defeat aggression in the Baltics, I would like to say a few more words about the current posture and size of America's ground forces in terms of meeting this and other pressing threats.

First, we must address the posture of our ground forces, which we have talked some about already. As my colleague stated, the Russians can overrun the Baltics and reach the capitals of Tallinn and Riga in 60 hours or less. Therefore, deploying three armored brigade combat teams [BCTs] and other combat and support forces after the war has begun will not work. They need to already be there when the fighting starts, or they will be too late.

The first option then is to preposition equipment in the Baltics and then deploy soldiers to man this equipment on warning of a Russian attack. This option requires sufficient strategic warning to assemble and deploy forces to the Baltics, rendezvous with their equipment, and then move to their defensive positions. This takes time and requires access by the air, sea, or ground to the Baltics, access which the Russians can interrupt with their anti-air, anti-sea, and surface-to-surface rocket and regular artillery forces.

Also, a massive deployment of troops during a crisis may prompt the Russians to speed up their offensive if this, indeed, was their original intent or if it seems an advantageous opportunity in the moment. And the prepositioned equipment may be vulnerable to preemptive air and missile strikes and to sabotage.

The second option then is to forward station three armored brigade combat teams along with their headquarters, fires brigades, and supporting forces in the Baltics so they are ready to fight on short notice, much as we had forward stationed forces during the Cold War, but this time many fewer would be required. Either existing units could be permanently moved from their bases in the United States, or new units could be activated and reside in the Baltics.

The third option is to increase U.S. forces rotating through Poland and the Baltics from one armored brigade combat team currently undergoing heel-to-toe rotations to three armored brigade combat teams; again, along with the headquarters, fires, aviation brigades, and other supporting forces needed to win a fight.

However, to sustain rotational forces indefinitely, it takes three regular brigades in the rotation to keep each one deployed. That is



for every armored brigade combat team deployed, the services have to have one in training or just having gotten back, another one getting ready to go. That is called a 1:2 deployment or 1:2 boots on ground, or BOG, dwell ratio. So for every one brigade that is forward deployed, two are either just back or getting ready to go.

Currently there are 9 armored brigade combat teams in the regular Army with a 10th now being formed. At a 1:2 rotation tempo, these nine brigades can maintain three forward, just enough for the Baltics, as my colleague has described. However, a fourth armored brigade is required to defend South Korea against provocations from the North and be ready to counter weapons of mass destruction issues with North Korea, and the fifth has been guarding Kuwait. This would require 15 armored brigades at a 1:2 rotation ratio to meet all 5 of these demands, and infantry, Stryker, artillery, aviation, and other units are subject to the same pressing rotational arithmetic.

I have given some more detailed analyses in my written comments, but the bottom line is that this rotational arithmetic hits the ground forces hard in both the Army and the Marine Corps. The ground services are hard pressed to maintain their day-to-day operations in Afghanistan, Iraq, Syria, Kuwait, other Persian Gulf nations, to maintain a posture to counter provocations or weapons of mass destruction in Korea, and to support other deployments around the world.

Because of this rotational turbulence, there are not enough ready armored forces present in Europe and in the United States to respond rapidly to Russian aggression. Increasing the total Army to over 1 million soldiers, including a regular Army of 476,000, certainly helps. Increasing Army strength further to 1.2 million with a regular force of 540,000 soldiers and increasing the Marine Corps to 200,000 would help even more.

However, the ground forces would need money to recruit, pay, and retain these soldiers and marines and to train and equip them with modern weapons to restore overmatch or at least matching capabilities against modern adversaries, and to employ them in ready units.

Restoring overmatch is particularly important. Today the U.S. Army would be outgunned, outranged, and outmanned in a fight against the Russians in the Baltics. The Army will need to rebuild its maneuverable short-range air defenses, improve the survivability and lethality of its combat vehicles, extend the range of its cannon and rocket artillery forces to simply match the Russians. The Army also needs to invest in theater air and missile defenses in order to match advances in Russian and missile threats.

But simple parity with the capabilities of potential adversaries should not be our goal. We should seek to have the best equipment across the board in order to be sure that our soldiers are in a position to win. For the Army, this likely requires an increase in total obligation authority. If the money needed is simply shifted from modernization accounts, then soldiers and marines will be at a disadvantage against adversaries that continue to advance their own capabilities. If training and exercise accounts are cut, then the readiness of our ground forces will suffer.



Thank you for this opportunity to speak with you. I am happy to address your questions in the question-and-answer period.

[The prepared statement of Mr. Bonds can be found in the Appendix on page 45.]

Mr. TURNER. Thank you. Mr. Hunter.

**STATEMENT OF ANDREW P. HUNTER, DIRECTOR, DEFENSE-INDUSTRIAL INITIATIVES GROUP, SENIOR FELLOW, INTERNATIONAL SECURITY PROGRAM, CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES**

Mr. HUNTER. Thank you, Chairman Turner and Ranking Member Tsongas, for the invitation to be here today and to join my RAND colleagues and to hear their testimony.

I am here representing the Center for Strategic and International Studies. I just want to emphasize the positions you will hear are mine. CSIS doesn't take positions as an organization, but we do have several studies that bear very much on today's topic, two of which that I want to mention. One is the two-phase report on evaluating U.S. Army force posture in Europe done by CSIS in which I have played a small role. And the second is an ongoing, soon-to-be-completed project on the Army's modernization strategy. And those projects, the first was sponsored by U.S. Army Europe. The second has an industry sponsorship from GD [General Dynamics], DRS [Leonardo DRS], and L-3 [L-3 Technologies]. I wanted to make you aware of that.

A potential future conflict on NATO's eastern flank presents one of, if not the most stressing scenarios for U.S. ground forces. The close proximity of NATO's easternmost members to Russia, combined with the explicit steps Russia has taken to develop and deploy systems designed to undermine or match U.S. warfighting advantages, makes the threat in this region especially potent.

In my view, there are three main features of the challenges presented by Russia that are central, and I am going to focus more on the level of capabilities versus the kind of force-on-force perspective that our friends from RAND have presented so far.

First, Russia has an A2/AD capability, anti-access/area denial, particularly along its border with NATO that presents a sophisticated, layered, redundant, multidomain capability that hinders the U.S. ability to project power in Europe. Through a combination of highly capable layered integrated air defense systems and offensive ballistic and cruise missile capabilities, Russia presents strategic operational and tactical challenges to U.S. ground forces.

Russia has also invested significantly in its ground combat systems, narrowing the U.S. advantage in combat vehicles by procuring modernized tanks and other vehicles while gaining an outright advantage in terms of indirect fire such as artillery and rocket systems. The advanced capabilities provided by these systems, when combined with the advantage of shorter internal Russian lines of communications in Eastern Europe, presents a significant operational and tactical challenge to U.S. ground forces.

Third, Russia's nonkinetic capabilities, particularly in electronic warfare, cyber operations, and information operations, significantly outpace the limited capabilities the United States Army can currently bring to a potential conflict. These nonkinetic capabilities po-



tentially undermine the effectiveness of U.S. intelligence and anti-armor systems, and threaten the ability of the U.S. and its NATO allies to operate effectively as a coalition.

I would also note that it is very likely that Russia—well, Russia has, and is likely to continue, to export many of these advanced systems to other potential U.S. adversaries, which means that these systems are likely to challenge U.S. ground forces in a variety of locations around the globe where they may be married with even other layers or degrees of challenge that you don't see in Eastern Europe.

So the U.S. Army needs modernization to address these problems, but Army modernization is currently facing what we at CSIS have termed the triple whammy. Let me walk you through that.

The first is that the Army is near the bottom of a historically severe budget drawdown. Army modernization funding declined 74 percent between 2008 and 2015, as a result of the drawdown from two wars and the imposition of the Budget Control Act [BCA] caps. The magnitude of this drawdown exceeds the drawdown the Army experienced after the end of the Vietnam War and also the drawdown after the end of the Cold War. And we have some charts on that in my written testimony.

The second aspect of the triple whammy is that as part of this deadline in our remodernization, there has been an unprecedented decline in Army R&D [research and development] funding. While the recent drawdown in Army procurement funding is roughly in line with those of the previous drawdowns, what is entirely different this time is a drawdown in R&D funding which is roughly twice as large as previous declines.

While R&D funding has been relatively preserved in previous drawdowns, this time it was a target, falling over 50 percent. This decline is concentrated in the later stages of research and development at the prototyping and system design and development stages, which are the immediate precursors to fielding new capabilities. And we have termed this phenomenon a 7-year trough in the pipeline for developing new Army systems.

The third aspect of the triple whammy is that the current drawdown has occurred after a relatively ineffective modernization cycle, for the Army, in the buildup that preceded this drawdown. The failure of a range of Army modernization programs such as Future Combat System, Comanche, Crusader—there's more—in the last modernization cycle and the focus on procuring less enduring systems like MRAPs [Mine Resistant Ambush Protected armored vehicles] during the buildup which was worth doing, but many of which have not been retained, meant that the last modernization cycle did much less to modernize the Army than the "Big Five" acquisition cycle of the 1980s.

So unlike the Cold War drawdown, the Army has experienced this drawdown without the advantage of having recently fielded large, modernized fleets of equipment in the buildup. And as a result of the unprecedented decline in R&D funding, it enters the current modernization cycle without the same foundation of systems in the pipeline that are ready to procure going forward.

Now that the drawdown is over and the defense budget is poised to begin to grow—I am tempted to knock on wood, but I think it



is true—the Army’s modernization strategy must be reoriented to address these new challenges, including those that are the topic of today’s hearing.

The fiscal year 2017 Army POM [Program Objective Memorandum] projects modernization funding that is approximately \$7 billion below the historical average for Army modernization funding, and that is in constant dollar terms. So the hole is quite large.

If you look instead of at the overall average, if you look at the average during periods of growth, which we believe we are entering, by the most conservative estimate we could come up with, it is at least \$9 billion below that average modernization level during periods of increase. So it is hard to escape the conclusion that the Army is going to need substantially increased levels of modernization funding if it hopes to field significant new capabilities in the coming years.

And I would note that to the extent that you have force structure increases, you are going to need some modernization funding just to make sure those units are equipped at a baseline level. So that will merit an increase, but that is not going to deliver the kinds of new capabilities that will be required to address some of these Russian challenges.

In my view, the goal of delivering the Army the key capabilities it needs is best accomplished by adopting an Army modernization strategy that focuses on adding capabilities to the Army’s large force of fielded systems across five major capability areas, including air and missile defense, advanced protection systems, electronic warfare, cross domain fires, and logistics. These capabilities will require and can further leverage the Army’s substantial investment made in the last two decades in networking and situational awareness.

The Army can obtain the fastest and most pervasive improvement in its force by progressively fielding these improvements in regular, sizeable increments. In addition, the Army’s modernization strategies should explicitly set aside room in the POM for quickly developing, prototyping, and deploying capabilities in response to emerging threats and opportunities as the Army has done with this committee’s help with the up-gunned Stryker vehicle.

I will close by just saying a little bit about allies and partners in Europe. There is some good news here that I want to start with; highlight the good news first. Our allies and partners in Europe have fielded actually a number of capabilities that were designed and do some measure of meeting this challenge from Russian systems. Whereas our indirect fire systems can be outranged, some of our partners in Europe actually have longer range artillery so we can gain leverage by fighting in coalition with these partners and at times potentially acquiring some of the niche capabilities that they have developed into the Army’s force.

I would also say, Mr. Chairman, you mentioned that 2 percent of GDP [gross domestic product] metric on the front end. I just want to emphasize that that is a good metric, but I think we should also focus on where that money is getting spent. I think it is critical that our allies and partners are spending any increase that they might put against their defense budgets on these chal-



allenges and not simply increasing defense spending in areas where it is not going to pay off in these potential conflicts.

I think the challenge on NATO's eastern flank is a harbinger of future challenges facing the Army, and I urge this committee to keep that in mind as it does its oversight and focus on the budget this year. Thank you, sir.

[The prepared statement of Mr. Hunter can be found in the Appendix on page 74.]

Mr. TURNER. Thank you, all of you, and I want to thank also RAND and CSIS for what you do in being able to give us as policymakers the ability in a nonclassified basis to take information, discuss its implications and impacts, and your expertise then is lent to us as we then formulate policies to come out of what some of the important issues that you identify; so thank you for the work that you do.

Mr. HUNTER, I agree with what you said on how they spend the money. We are very excited, of course, that the President has made a point on the 2 percent. I was in Munich and in Brussels following on with the Vice President and Secretary Mattis and was somewhat interesting as to the tone that I might expect when I got there, but, in fact, it was actually embracing. NATO members know they have a problem. They know they need to get to the 2 percent. I think that is going to be an important discussion, and I think in part they understand it because of what the three of you have been describing. Russia's aggressiveness and threat to Europe should not represent the need for a backstop by the United States. We should be an additor. We should be an addition to their capabilities.

The fact that Russia has an economy the size of Italy yet can threaten all of Europe without us is something that I think most of our European allies are beginning to address and looking to their 2 percent. But, Mr. Hunter, as I was leaving the Munich Security Conference, I was reading a piece on how the 2 percent, as you just said, is not necessarily the most important number. Nearly half of the expenditures from our NATO partners are assessed at possibly being wasted from duplication of effort, lack of focusing on unique capabilities and capacities, so that there is a unified capability that is delivered to NATO. So I appreciate your points there.

Also I appreciate the points that you have made on the Kaliningrad, Crimea, and Syria area access of land, sea, and air denial that we are facing. That is an additional stressor besides just Russia's aggressiveness that we are now looking into an environment where we don't have the freedom of movement in addition to, as RAND has pointed out, that the Atlantic now being a contested space.

I just want to give one editorial note to the conclusion to the RAND study that there are three possible choices for the United States or our allies or outcomes, one being a protracted conventional war; two, risking or initiating nuclear exchange; or, three, essentially surrender. Those really aren't three options, and I appreciate the fact that you, by bringing this issue forward, help us create additional options so that we are not faced with that.

Looking at Russia's efforts on denial of access, their modernization programs, their size, their geoproximity to the area that could



be in conflict, ability to resupply, and the threat of their exercises that are giving them new capabilities to operate within the area, it raises the issue of not just our forward deployment or what our posture should be, but also the issue of modernization.

So my question to you is in looking at just the issue of Russian modernization in addition to its aggressiveness and the fact that Mr. Hunter, as you have indicated, 74 percent of the Army modernization funding was cut since 2008, what should be our top three priorities looking at our Russian adversaries—and they have self-declared themselves our adversaries—what should we as a committee be focusing on for Army modernization as we move forward?

And we'll begin with you, Mr. Bonds.

Mr. BONDS. Thank you, Mr. Chairman. I would say the first three that I would look at very carefully: Long range fires is an issue. At the moment the Russians can outrange us and outgun us. Having the fires that can respond in kind will be important. Some of those have to be capable of not only of performing counter-battery against their surface-to-surface, rocket artillery, or longer range missile systems, but some of them also have to be able to conduct either suppression of enemy air defenses—we call it SEAD—or destruction of enemy air defenses. We call that DEAD or “DEAD,” if you prefer. The submunitions that are used will be very important. Having submunitions that can actually also on those systems be able to break assaults of massed Russian armored forces will be important. Having something with precision because some of the firing may be into Russian territory, like Kaliningrad, and being able to limit collateral damage in those strikes will be important. So the very first one I would say would be long-range artillery fires with the accompanying submunitions.

The second one is because of the pressures to have soldiers for a variety of other purposes in the regular and counterinsurgency operations we have fought over the last 15-plus years, one of the areas that the Army has had to divest is short-range air defenses. Having the ability to keep Russian ground attack airplanes off of the U.S. and NATO brigades will be very important, especially if the anti-access/area denial forces in Kaliningrad and the other ones that Russia could push forward in an invasion can deny the blue Air Forces, the U.S. Air Force and our NATO allies, the ability to defend NATO and U.S. ground forces with our own airpower. So short-range air defenses are another priority.

The third one would be modernization of our combat vehicles. This is something that is very important, being able to give them better protection, actual protection systems. Being able to give them longer range direct fire weapons would be a third important thing.

If I could sneak in a fourth, electronic warfare and being able to protect our own headquarters would be a fourth area. We have to have mobile headquarters. We have to be able to both protect them against Russian electronic and signals intelligence capabilities. We have to be able to respond in kind.

Mr. TURNER. Mr. Hunter or Mr. Shlapak.

Mr. Hunter.



Mr. HUNTER. I have a very similar list. I might slightly reorder them, probably put air and missile defense first. The one thing I would add to the list that he had is the issue of munitions, and, you know, the NATO alliance has often faced a numerical disadvantage when confronting the threats in Europe, previously the Soviet Union, the Warsaw Pact. And the answer to that was more precision, was higher tech-type response, and in this context when you talk about potentially being somewhat outranged or outvolumed by Russian indirect fires, the potential U.S. response to that can be longer range guided precision munitions that don't require the same volume in order to be effective. We have some of those that have been developed, but we don't see them across the full range of Army munitions.

And so I think there is a lot that can be done to increase the effectiveness of the munitions coming out of the tank, out of the artillery systems, off the helos [helicopters], across a wide range of Army systems.

Mr. TURNER. Mr. Shlapak.

Mr. SHLAPAK. I would just like to reinforce the importance of the short-range air defenses within Army maneuver formations. In our war games, we frequently see U.S. and NATO ground forces come under very heavy air attack from Russian fixed- and rotary-wing attack aviation, inflicting substantial losses, and contributing significantly to NATO's problems.

Now, American soldiers have not come under air attack since 1950. The dominance of U.S. airpower has been that substantial for that long. The challenge presented by Russia's air defenses, the integrated air defense comprised of the most sophisticated surface-to-air missiles in the world, plus an air force that, while not nearly the quality of NATO's, is good enough to stay in the game, means that in the opening hours, days, perhaps even weeks of a fight with Russia, NATO's airpower will be busy trying to deal with those air defenses, trying to deal with that air force, and will only be available to support the ground forces either with air-to-ground fires or to provide air defenses episodically, in bubbles of space and time.

The Army will have to be able to defend themselves from air attack. Right now their capability is essentially zero. That needs to change and change soon.

Mr. TURNER. Turning then from modernization to the issue of how should we position ourselves, you have pointed out the issue of the aerial denial and infrastructure which inhibit our ability to get forces forward, pointing out the issue of early warning and not likely to be available to us, and that of course is cast in the light of the exercises that Russia is having on a repeated basis in large scale exercises where we are unable to ascertain their intent.

In looking at the war gaming that you have done, what do you see as our needed permanent and rotational forces mix, and what are your recommendations to change this dynamic?

Mr. SHLAPAK. The challenge of warning is a substantial one because, as you say, we have seen very large exercises by the Russians, the so-called snap exercises, that occur with very little warning and comprise thousands, tens of thousands of troops, and the challenge of course is at the end of the exercise, do they turn right and go home, or do they turn left and create problems? And that



is what leads to our assessment that a scenario that begins with very few days of warning for NATO is eminently plausible, and it is because of that timeline that forward presence is so important, which is why while there are options, as my colleague Tim suggested, for how you achieve that forward presence, the most robust answer would be to permanently deploy three heavy brigades in the region.

Other forces can get there more rapidly. Airborne forces can move from Fort Bragg or from Italy. The Stryker brigade that is in Germany can road march, and it has demonstrated its ability to road march rapidly from its peacetime location into Eastern Europe. Tanks don't get from Fort Hood to Europe fast. It takes weeks. NATO will likely not have weeks. Even drawing out prepositioned equipment from stocks that are located in Europe takes more time than NATO is likely to have. My best judgment, backed I think by our war gaming, is that forward stationing of those forces creates the most robust, most responsive, most reliable deterrent.

Mr. TURNER. Mr. Bonds.

Mr. BONDS. Mr. Chairman, I would like to add to the comments my colleague made, with which I certainly agree.

There are a couple other things we need to think about in addition to those. One is logistical infrastructure. It is something that doesn't get a lot of press. It is not always interesting, but what it really means to be ready in Europe means that you have got a logistical infrastructure that can handle a warfighting—can sustain a warfighting load. Something we paid a lot of attention to in the old Cold War days, now all those logistical needs go a thousand miles to the east. We have never had the kind of infrastructure in Eastern Europe that is now needed.

We have been really heartened. We recently returned from a visit to U.S. Army Europe and to the 3rd and the 4th ID [Infantry Division] that is deployed to Poland, Zagan, Poland. They are making enormous strides in trying to understand the infrastructure that is needed, what is available, what improvements need to be made, really rapid progress, but much more needs to be done.

The other thing that the trip confirmed for us was the need to operate, to train, and to develop interoperability with our NATO allies. It used to be in the Cold War they would be interoperable on a corps-to-corps or division-to-division level. Now with the NATO multinational battle groups that are going to be forward deployed, they need to be interoperable at a company and even a platoon level. So having the ability to interoperate with the forces of other nations, different radios, different languages, different procedures, very, very important. Again, they are making great strides in their training. Much more needs to be done.

Mr. HUNTER. I think there may be a slight point of difference here between the work that has been done at CSIS and RAND's work, in that we observed quite a number of practical limits on how forward deployed forces, how forward they really are. And actually to the point made about the logistical challenges in Eastern Europe, and it is actually quite a long way from the areas in Germany where we have traditionally stationed forces to the Baltics. And on the timeframes that the RAND war game looks at, you



know, you are not going to get from Germany to the Baltics in that timeframe with significant force.

So I would characterize the approach that our CSIS study looked at as focused very much on deterrence, in other words, trying to make it such that if there was a decisive move made against the Baltics, that it would necessitate offensive action against other countries in Europe, so raising, escalating the cost to Russia if they were to decide to take that approach.

And our study recommended a mix of forward-deployed forces, rotational forces, and prepositioned equipment sets, such that it would be very clear to the Russians that making such a move would have very high costs.

Mr. TURNER. Thank you for these perspectives. They give us the ability to do that assessment of what we have to make certain that, what capability or capacity that our military has.

Mr. Shlapak, you had an additional comment.

Mr. SHLAPAK. Yes, I just wanted a point of clarification, if I may, Mr. Chairman. If I were waiving a magic wand instead of a marker pen and I were determining where U.S. forces would be forward deployed, it would not be in Germany. It would be in the Baltic States themselves or at the furthest in Poland because I agree with you, Mr. Hunter, that having them in Germany is too far away. Currently we are still postured to defend the Fulda Gap, which is no longer the problem.

Mr. TURNER. Niki Tsongas.

Ms. TSONGAS. Thank you, Mr. Chairman, and thank you all for being here today. I think in your testimony you are certainly raising some very concerning questions, and I appreciate Mr. Turner's commitment to pursuing this issue.

None of the answers are easy given the multitude of threats that we confront across the globe and the need to be aware and responsive to those in a fiscally constrained environment, and so I think the decisions that we make going forward has to recognize that and try to make smart investments as we do that.

And as you all have been talking about, the Army is currently rotating units in and out of Eastern Europe in an effort to deter Russia from provocative action in the region, and I think that is quite appropriate. But as we know, this is an expensive undertaking, and the prospect of further force buildup would only increase this cost over time, and I think that is something that we struggle with.

So I'd like to get your take on what type of deterrent capability we could derive from the deployment of other kinds of things like advanced sensors or robotics or other standoff capabilities in concert with or in lieu of U.S. ground forces to the region.

So in other words, how best to take advantage of the third offset strategy capabilities? And in talking about that, what are the benefits of a conventional force versus using and taking advantage of those new strategy capabilities that are being developed?

And I will start over here with you, Mr. Hunter.

Mr. HUNTER. Thank you. A couple of points that I want to make on that. You know, technology can have a deterrent effect. In many cases, one way to achieve that is to reveal a capability that you have and make it very explicit. Another way to do it is to achieve



some ambiguity about what capabilities you may or may not have. And I am thinking at this point specifically about the Strategic Capabilities Office which is, in fact, very much focused on this sort of problem set.

How do you develop a suite of capabilities and selectively reveal some and make it clear that you are also developing others that you don't reveal in order to have an effect, a deterrent effect, on a potential near-peer competitor because it raises their uncertainty about whether they are going to enjoy the success that they might imagine that they would enjoy based on their uncertainty about what capabilities you might actually be able to bring to the fight.

The thing that comes to mind specifically when it comes to NATO's eastern flank was referenced earlier, the need for better intelligence indications and warnings, and so I think in terms of the capabilities that would be good to feel that you could reveal, would be better capabilities to understand the Russian order of battle. We used to be extremely good at that, at knowing exactly where all the Russian forces were and what their capabilities were. That has atrophied somewhat because our focus has been elsewhere for very good and understandable reasons.

And I think there is a lot that can be done to renew that and some additional technical approaches to enrich our understanding of their order of battle and of what kind of maneuvers they may be undertaking. And particularly, as you know, they are fond of doing these exercises, and you are always left wondering if that is really an exercise or if it is something more. And I think there are some capabilities we could field that could help us there.

And then I think on this area of longer range fires and munitions, capable munitions across a larger set of the Army's already installed base of munitions, that is a very Strategic Capabilities Office type approach of leveraging what we have already fielded relatively quickly with improvements to raise the uncertainty on the other side that our weapons may have far more capability than they know of, and that would be another effective approach.

Ms. TSONGAS. Mr. Bonds.

Mr. BONDS. Representative Tsongas, thank you so much for that question. As a former aircraft designer, that was my life for about a decade.

The development of new capabilities is always a great idea, especially when it is coupled with a better approach to combat. In some respects, the last thing you want to do is to have to employ large numbers of humans of any service when you can use technical means in order to make the humans you have more effective. But capabilities are really only real when they reach the field. The thing that I would want to caution this committee and the greater defense community against is relying on a capability until it is actually proven.

And so on our way to building, testing, and fielding, whatever the third offset winds up actually realizing in terms of new capabilities, we are going to have to maintain our current force structure. In some ways we say, hey, let's not forget offset 2.0 or offset 2.5. We are going to want to make sure that we really have a current capability to deter. Our belief, the belief we have from our work, our conclusions from our work, is that the only real deterrent



is an ability to deny an adversary their objectives and ultimately to defeat them.

So we need that capability now as we seek to improve it going into the future. We always want to wind up in a better place, and if the question really looks at how we increase our capabilities in the future, I am all for that so long as we can still meet the challenge today.

Ms. TSONGAS. Mr. Shlapak.

Mr. SHLAPAK. Let me echo my colleague in saying that looking for new ways of solving these hard problems is always a worthwhile endeavor. And certainly the American way of war has always embraced the notion of capital labor substitution, because putting Americans in harm's way is never the right answer to any problem.

Having said that, let me talk a little bit about the time factor and how that drives how you have to approach this problem. In our war games, the fastest Russian forces are allowed to move is 5 miles an hour. That is unimpeded, on a road, nobody attacking them, nobody shooting at them, nobody bombing them, 5 miles an hour. That is the Capital Beltway on Thanksgiving weekend. The fastest they are allowed to move, and the fight is still over in 36 to 60 hours.

Why is that important? It is important because things like long-range precision fires take time to work. It simply takes time to deliver enough firepower to wear down an attacking force to the point where it stops, where it is defeated. The reason ground forces are so important is that they allow you to shape the battlefield in a way where you slow the adversary down even from that 5 miles an hour. You slow them down from 5 to 3 to 2 to 0. And you also force them to operate in different ways that make them more vulnerable to those long-range precision fires so that you get a synergistic effect from those ground forces and from those fires. And we have found that that synergy is vital.

If you take the ground forces out of the equation or you have inadequate ground forces or you have the wrong ground forces, you don't have the heavy forces that can maneuver and engage the heavy armor of the Russians, that can shape the battle space, then the fires become much less effective and are simply inadequate to stop the offensive before it reaches Tallinn, before it reaches Riga.

So while I certainly encourage the pursuit of new options, new ideas, new concepts, new technologies, we should be cautious about understanding how the synergies affect actual battlefield outcomes.

Ms. TSONGAS. Thank you. I yield back.

Mr. TURNER. Mr. Cook.

Mr. COOK. Thank you, Mr. Chairman. I read the report that you had. It was pretty scary, and we had a CODEL [congressional delegation] that went to Europe last summer and we discussed that, and it almost went back to a book that was written many years ago. I don't think Mr. Hunter was born when it was written. It was called the Third, if I remember right, and I haven't referred to it in years, Third World War by—exactly. And the Fulda Gap and everything like that. It was kind of scary in terms of the American force, and it was kind of a wakeup call to the American military at the time.



And I actually think your report should be a wakeup call. You are absolutely right. And, of course, I am not a big fan of the sequester. I wasn't. It is killing the Army. It is killing training. It is killing weapons systems. For those of you who don't know me, I am real big on reactive armor. I love the Israeli Trophy system and some of the other things.

I wanted to ask you about systems like HIMARS [High Mobility Artillery Rocket System]. You briefly referred to multiple launch. I agree with you. I don't think you are going to get those tanks there. You know, years ago they used to be able to put tanks on a train and get them there. You are right. It is going to be the traffic jam at noon, and to react to that, you are going to need those long-range systems to stop interdicting and buy us time.

And can you go into that a little bit more on HIMARS and some of these other systems, as well as some of the air systems that you think could help us on that.

Anybody.

Mr. BONDS. Thank you for the question, Mr. Vice Chairman. I would like to talk about the ground-based rocket artillery and then go to colleagues for some of the air part of that.

On the ground-based, I think that long-range precision fires are going to be very important. We need to actually probably look at longer ranges, and we need to look at where they can be based. I don't think all by themselves they are going to be sufficient. I think that the name of this game, if we are going to win it, if we are going to play it and win it, is going to be combined arms. It is going to be a combination of the long-range fires, maneuver forces, and air forces.

Mr. COOK. No. I agree. I am just kind of focusing on the HIMARS because of the range in that particular system right now.

So no, what you are saying is absolutely right, but I am just thinking here, where are we going to throw some money because we have to make choices on this committee and critical choices. So we can't buy everything, but we can buy certain things.

Mr. BONDS. So we have done some work on this, and among the things, one of the things we like to look at is the whole end-to-end, some call it a kill chain. Others might call it an effects chain. One of the things we have to work on with our long-range fires is a better ability to sense where the targets are, a better ability to actually be able to do the targeting and pick them out from what will be potentially an enormous amount of clutter.

One of the things the Russians have always been very skilled at is having camouflage, concealment, deception. Presumably they will be on their best game if they ever decide to attack NATO. Having the ability to seek things even in a cyber challenge environment is going to be very important as well.

The ability then to attack them, sir, I think is what you have pointed out. Having a longer range in our missiles would be important. Having simply more of them.

One of the things Mr. Hunter pointed out is that we don't simply buy enough of the rocket munitions. Having an adequate supply of them will be important.

The other thing we are going to need to consider is what we are going to do about submunitions. We have been abiding by the Oslo



Treaty. It is something that we may want to carefully take another look at. Yeah, you know without meaning to trivialize this, if it gets to the point where we cannot stop mass formations any other way, we will need to look at our utilization of those munitions.

Mr. COOK. All right. I am going to switch gears because I am probably using up far too much time, but I also wanted to throw in a political or foreign affairs question. Belarus. Belarus is going to be key on this, and everybody knows the geography where Kaliningrad, part of Russia is right there, but a lot of this attack is going to come from Belarus—correct me if I'm wrong—or support of this attack.

And somebody referred to it, they got to know right off the bat that, hey, you are going to be drawn into this if you are going to attack these other countries. Belarus is a satellite, in my opinion, of Russia. Any comment on that? I know it is getting off a little bit but.

Mr. SHLAPAK. Belarus is an interesting case. We give our red teams free play in terms of how they choose operationally to attack. Do they attack north? Do they attack in the middle? Or do they attack south? And almost universally they choose to attack north. They don't choose to attack through Belarus.

And when we ask them why, one of the responses that they give us is that from their point of view, Belarus is to them what the Baltics is to NATO, this very large, hard-to-defend area that if they attack through it, becomes their responsibility. It becomes their rear area. And because the Belorussian military is not very high quality, they can't defend themselves.

So it becomes actually a liability for the Russians if they use it as a launching point for a major offensive. And so they tend, at least in our war games, they tend to focus on the north where they can operate out of sovereign Russian territory, and thus make NATO face the challenge of actually attacking into Russia, rather than attacking into, as you say, a Russian satellite or Russian—

Mr. COOK. Yeah. But the snap exercises, you know, they come down from the south. Remember the ones that come that way, around Kaliningrad?

Mr. SHLAPAK. Right. One of the scenarios that you often see played is sort of a land bridge out of Belarus towards Kaliningrad, which is a challenge, but it does on the Russian side create this liability which is now the Russians have to commit forces to actually defending that rear area for precisely the reason, Congressman, that you say, which is Belarus becomes a co-belligerent and, therefore, becomes liable to attack by NATO.

Mr. COOK. The last thing I want to say, it was very disturbing, the report and the comments that are made, but more people in Congress and what have you, not just this committee, have to hear what you are saying about that because you are spot on. Thank you.

Mr. TURNER. Mr. Wittman.

Mr. WITTMAN. Thank you, Mr. Chairman. Gentlemen, thanks so much for joining us today.

I wanted to start with Mr. Bonds. Looking at the gaming scenario that you put together, you talked about the seven brigade combat teams, and I know that three of those are armored bri-



gades. We have one of those rotational armored brigades there in Europe. Tell me the scenario about how the other six come into being. What capability is there with our NATO allies? Can they marshal enough to be equivalent to six of our brigade combat teams? If not, what do we have to do to backfill? What do we have to do to move other assets around in CENTCOM [Central Command], EUCOM [European Command], those areas?

Give me the scenario about how we deal with that as a backup to having on the ground a permanently stationed BCT. We had a chance to visit the Baltics not long ago, and, of course, their want is for U.S. presence there. They were asking for just battalion presence, not rotational presence there. Their facility is pretty rudimentary, as well as their training.

We also know too, the very short timeframe with Russian forces coming across with armor units, artillery units, and boots on the ground about how quickly they would overrun Tallinn and those other capital cities there in the Baltics. Give me the perspective about how do we, we have identified what we need currently with what we have. It seems we are far short of equity there. Give me a scenario about how those pieces that already exist kind of come together.

Mr. HUNTER. Let me give you a little flavor of our CSIS look on this, and then RAND I think has their own perspective on it. They are not wildly dissimilar.

The analysis that CSIS did suggested that a total force of about 13 coalition, if you will, NATO BCTs could effectively deter a move by the Russian forces that are typically deployed in their western area, which is to our east. So of those, about eight would be U.S., and five would be NATO or Allied, many of them from the Baltics.

And let me just say a little bit on the Baltics themselves. I think you would be pretty challenged to permanently station three armored BCTs, U.S. BCTs or NATO BCTs, in the Baltics not only for geopolitical reasons because even though we would know that they were entirely defensive, they might not look so defensive to the Russians, but also just from a logistics and a space. They are not humongous countries.

So that is a concern, and it is one reason why the CSIS look focused on adding an additional armored brigade combat team to Europe, which was also a recommendation of the Commission on the Future of the Army, and, of course, Dr. Hicks, my colleague who led our study, was also on the Army commission. So it focused on adding that one armored brigade combat team and filling in essentially the rest of the U.S. eight with forces already in Europe, rotational forces, and then the preposition sets that could be fallen in on relatively rapidly. That was the approach that our study recommended.

Mr. WITTMAN. Very good. Mr. Bonds, give me your perspective if you would.

Mr. BONDS. Sir, if I could I would like to defer to my colleague and then add in anything that he may miss.

Mr. WITTMAN. Mr. Shlapak.

Mr. SHLAPAK. Which is bound to be extensive.

Congressman, so let me talk a little bit about the specifics of how we constitute that force. Our assumption, which is probably opti-



mistic from the NATO point of view, but that was deliberate in the way we staged our game, our assumption was during the warning period, roughly four brigades could arrive on scene. That would be the division ready brigade of the U.S. 82nd Airborne deploying from the CONUS [continental United States], the 173rd Airborne coming out of Italy, and the 2nd Stryker Brigade coming from Germany. So those are three U.S. brigades that could arrive.

And then what is called the lead element of the Very High Readiness Joint Task Force [VJTF] which is a composite NATO formation. So we assume that those could arrive during that 7- to 10-day warning period that we allocated to NATO. Now the rotational brigade is potentially a very powerful formation, but the current concept for it is to spread it out from Estonia to Romania in small sort of penny packets, again, more as a reassurance than a deterrent posture.

Our game assumed that it could be reconstituted and be made ready to fight as a brigade in that 7- to 10-day warning period. Realistically, it is not clear that could be done, and it is also not clear that our NATO allies would, in Hungary and Romania and Bulgaria, be particularly happy about surrendering their reassurance force at the edge of a war with Russia.

Our NATO allies are deploying three battalion-size, battalion-plus battle groups, one in each of the three Baltic States. Conceivably they could combine to form something approaching a heavy brigade, but again their concept of operation is not consistent with that. The plan is for them to be very tightly integrated with the individual national armies, and we have had conversations with the appropriate folks in NATO, and it is clear there is absolutely no concept to sort of "Avengers Assemble" and bring them together to sort of fight as a brigade. Instead they will remain with their national forces.

Our NATO allies have unfortunately since the end of the Cold War, and also ongoing through this century, drawn down their heavy combat forces substantially. Now some of that, to be fair, is them being good allies. We asked them to come and fight with us in places like Iraq and Afghanistan. That didn't require tanks. That required infantry, and so they made the choice to seek to make those contributions, which meant retiring tanks. It meant doing away with their heavy forces.

So you look at, say, Germany which during the Cold War in the late 1980s fielded 12 heavy divisions. Today they have a little over 200 tanks in their entire active inventory, and it would probably take them 45 days or so to get a single heavy brigade into action.

The Allies today probably are not well postured to contribute much beyond what they already are in terms of these three battle groups plus the VJTF to that initial force required to sort of keep NATO in the game for longer than 2½ or 3 days. The burden probably falls on the United States for that, and that is where we say that those other armored brigade combat teams somehow have to be produced, whether through the rotational dynamic that my colleague discussed or by permanently dropping them down there.

Mr. WITTMAN. Got you. Very good.

Mr. BONDS. I would like to add just one thing to that if I could.



I agree with Mr. Hunter that actually stationing three armored brigade combat teams in the Baltic States would require a fair amount of infrastructure that does not at present exist. It is not just the infrastructure to host them of course, as you know, but it is the sustainment infrastructure, the port infrastructure, et cetera. It can be built, done it with many more forces in Germany earlier, but that infrastructure does yet remain to be built.

I will take a—push back a little bit though on the notion that three of our brigade combat teams in the Baltics would look like an offensive threat to Russia. They might say that, but they actually know better. The canonical formulation is that if you are going to attack, you need a three-to-one advantage.

Right now in the western military district, the Russians can count on 27 heavy brigades. If only one-third of them is ready, that is nine ready armored brigades that would be defending against an attack of three. The Russians know that that is not a correlation of forces that would actually imperil St. Petersburg. And in fact, there is a statement by the Russian Minister of Defense that admits as much. Apparently they have read our report too. There have been something like 2,500 downloads in Russia. They have actually responded to it in the press. They have said, well, if NATO, in fact, does put three armored brigades in the Baltics, we will have to put three new divisions in the western military district.

So they understand the correlation of forces, still three to one to maintain an advantage of attack. They are saying they are going to increase their forces ninefold if NATO puts three in the Baltics.

Mr. SHLAPAK. If I may also just address that very briefly. I have had the opportunity to speak at conferences where Russians were present, and I have invited them to come play our war game, and to play NATO, and to attempt to invade Russia with three brigades against our red team playing Russia and defending, and I have actually offered to give them two tries in case the first try doesn't go very well, and so far the Russian General Staff has not responded to this invitation.

Mr. WITTMAN. Very good. Thank you, Mr. Chairman. I yield back.

Mr. TURNER. Thank you. Mr. Brooks.

Mr. BROOKS. Thank you, Mr. Chairman.

Mr. Shlapak, during all the testimony and questioning, I was reviewing your work entitled Reinforcing Deterrence on NATO's Eastern Flank, Wargaming the Defense of the Baltics, a little bit in greater detail than what your testimony has been.

But one part of it says that seven brigades, quote, "could suffice to prevent the rapid overrun of the Baltic States," end quote. Two phrases or words are important. One is "could," and the other one is "rapid overrun." If we had those seven brigades there, how would you describe the word "could"? How would that change.

Mr. SHLAPAK. Well, there are a number of factors that determine combat outcomes, and the human factor is very important.

One way I describe this when I talk about war gaming is that you get very different outcomes with the exact same force if Ulysses Grant is commanding the blue team or Hugh Grant is commanding the blue team. So we have had that.



Mr. BROOKS. I am from Alabama. We prefer you talk about Robert E. Lee, but go ahead.

Mr. SHLAPAK. Fair enough. But the analogy doesn't work quite as cleverly, sir, but fair enough.

So we have had blue teams that were less successful with that seven-brigade force because their application of it was more Hugh Grant-like than Robert E. Lee-like. Military art remains a very important factor in determining success or failure on the battlefield, so the "could," was meant to reflect the fact that this does not guarantee success. These forces have to be properly employed in order to——

Mr. BROOKS. Best-case scenario, how long would it take the Russians if they were intent on taking the Balkans [sic] and we put in seven brigades, for the Russians to be successful?

Mr. SHLAPAK. We believe that that seven-brigade force, if it was properly supported, could hold out for up to 28 days against a force of 40 to 50 battalion tactical groups, which we assess as being about the maximum effort that the Russians could plausibly bring to bear, given current and midterm projected Russian capabilities.

Mr. BROOKS. So the best-case scenario is we delay a 2- to 3-day defeat to a 28-day defeat, assuming that we don't then reinforce those seven brigades in some fashion.

Mr. SHLAPAK. Reinforcement is absolutely necessary. During that 28 days, which after you add in the 7 to 10 days of warning you had becomes 35 to 38 days of total mobilization and deployment. During that time, the Army currently plans on deploying three brigade sets of armor in Europe. During that time, we would expect those three brigade sets, if they are properly positioned, properly protected, to become available, which would allow three additional U.S. armored brigade combat teams to hit the ground running.

You now start getting into the window of time where, with modest increases in readiness, German/French/British heavy brigades could begin to appear on the battlefield. You have a Polish army that is fairly substantial, and upon mobilization could begin contributing forces to the fight.

So if you can hold the line for that month, potentially, if you have done smart things with your sustainment, as my colleagues have discussed, if you have done smart things with your modernization, as Mr. Hunter has discussed, so that you are not out-matched during that 28 days, you can begin to bring NATO's overall superiority to bear. And that 28 days, where those seven brigades are, for those of you who remember your World War II history, are sort of Bastogne-like, holding the line against the much larger Russian force that is——

Mr. BROOKS. You have answered my question. Let me move on to some others.

As was mentioned previously, and I think this is right on point, we are under severe cost limitations, given our extraordinary out-of-control deficit and debt. You may or may not be aware that the GAO [Government Accountability Office] and the CBO [Congressional Budget Office] last—well, in January, issued another report saying that what we are doing is unsustainable, which is their way of saying we are headed to insolvency and bankruptcy. If you look at the current Secretary of Defense's comments, also Chairman of



the Joint Chiefs of Staff, Admiral Mike Mullen, in his testimony, our greatest national security threat is our debt, if you believe them, and I do.

How much does it cost for these seven brigades and the infrastructure, incremental additional cost, to position them in the Baltics as opposed to their being nonexistent or where they are now?

Mr. SHLAPAK. So it depends how you—

Mr. BROOKS. And anybody can answer that.

Mr. SHLAPAK. Right. It depends how you choose to generate them. We have done one set of estimates. If you are simply moving existing units, the one-time cost to move them is roughly \$700 million; and then the incremental cost, on an annual basis, is roughly \$200 million.

If you create new units, but you exploit existing equipment stocks, either by taking equipment out of storage or perhaps re-rolling Reserve Component units, Reserve Component heavy units from armor to Stryker or infantry, you have a one-time cost on the order of \$4 billion and then annual costs of about \$2.7 billion. This is for a full-up armored division. So it is three brigades plus artillery plus enablers.

Finally, if you are just going to create completely new formations, just create from the ground up an entire new armored division, your one-time startup cost, which obviously would be spread over a period of years, is about \$13 billion. And then, again, you have about that \$2.7 billion annual O&M [operation and maintenance] cost to maintain the force.

Mr. BROOKS. Mr. Chairman, may I have one followup?

Mr. TURNER. Sure.

Mr. BROOKS. All right. You know, there is an old saying that the best defense is a good offense. And it seems to me that as you are trying to evaluate whether to spend these very large sums of money, you also have to take into account the probability that Russia is going to attack the Baltics, in order to make an assessment as to whether it is worthwhile.

If we are going to instead talk about a good offense being our best defense, what would your-all's thoughts be on us assisting Ukraine, both in the Ukraine proper and in Crimea, which used to be a part of the Ukraine, a little bit more aggressively in order to do two things: One is to force the Russians to shift more resources to their efforts in that part of the world; and, two, to reinforce that we are sincere about trying to deter the Russians should they try to be expansive? And if we do it in the Ukraine and Crimea, that would suggest that we are going to do likewise in the Baltics, which, in turn, might deter them from considering attacking the Baltics.

What are your-all's thoughts on that?

Mr. BONDS. Sir, two things. One, the concept of actually stretching them across, you know, multiple domains, probably always a valuable thing to look at and to spend some attention to. Whether that—you know, to what degree that means providing more lethal aid to Ukraine would need to be looked at, sir.

The one thing I would want to caution against is substituting a different war. My colleague, Dave Shlapak, says we don't want to be in a position of fighting a different war rather than defending



where they have already attacked and intend to win. So it may not be a substitute.

It may be the situation where you augment a deterrent strategy in the Baltics with doing other things, you know, being strong other places around their periphery, causing other challenges that stretch them in some ways. I think that would tend to be an additive thing rather than a substitute.

My fear would be they might decide that we can hold out in the Ukraine, we can keep our operations going longer there while we take over the Baltics, and then we will deal with what the U.S. and NATO does in the Ukraine.

Sir, if I may add one thing to your earlier question. I want to clarify that it is not so much that we believe we would then lose in 28 days instead of 2 or 3 if we added the seven brigade combat teams. It is simply that what happens after day 28 becomes murky, unless those forces can be sustained. They will start to run out of stocks, preposition stocks, so those stocks have to be replenished. They will have to be reinforced.

And you may remember, sir, during the Cold War days, the standard for NATO was 10 divisions in 10 days reinforcement from the United States. But also, 28 days gives a lot of time for airpower from the U.S. and from our NATO allies to break through the Kaliningrad air defenses. And so at that point, heavy airpower and heavy missile fires, if indeed we do invest in those long-range systems, can have a chance to become a lot more effective and attrit the Russian forces that might be outside the gates of Tallinn and Riga. And so I just want to add that those things will be going on during that 28 days, but you will still need that reinforcement.

Mr. HUNTER. I think I largely agree with what has been said. I do think the key is deterrence, because I think the truth is, whether it is the scenario that we looked at, the scenarios war games there, there is no certainty of victory if the Russians make a serious move against the Baltics, at least in the near term, right, and that immediate stopping the offensive.

There is not going to be a guarantee of success, so the key is deterring them from taking that step. And that is why the CSIS recommendations are focused so much on the elements of deterrence. What does it take to achieve that?

On your idea of essentially going on offense in some respects, the step that I think would be the most offensive in that, if I can use that analogy, to the Russians would really be for our European allies to significantly up their investment in defense, because I think that has direct implications for this scenario, but it has implications for the Russians across the board.

And as the chairman mentioned in some of his opening comments, actually, you know, the combined economies, and to some extent the combined forces, even though we wish our European allies had larger militaries, but their combined militaries and their combined economic efforts are very threatening to the Russians if they are unified.

Mr. BROOKS. One of the reasons I mentioned the Ukraine and Crimea is because, hopefully, we learn from history. Certainly, our military assistance with weaponry had a major effect in Afghani-



stan, with Afghanistan becoming free of the Russians on the one hand, and ultimately the Soviet Union collapsing on the other.

Thank you for the additional time, Mr. Chairman.

Mr. TURNER. Gentlemen, I want to thank you for your expertise. Thank you for the perspective you have given to us today. Thank you for both CSIS and RAND and the work that you do.

And I want to ask you if you have any additional information or items that you want to highlight before we conclude the hearing. We are done with our questions, but if you have anything else you would like to add, we certainly are willing to recognize you.

Mr. BONDS. Thank you, Mr. Chairman. Thank you, members. Thank you, Ranking Member Tsongas. This has been really a terrific opportunity to talk more about our work.

There is one thing I would say. We focused a lot on the Baltics here. There is another step to our work. When we consider total Army capabilities, total Army capacity, it needs to be for the range of threats that are faced.

We are about to embark on running an extensive series of war games, four different war games looking at the Korean weapons of mass destruction threat, what the U.S. might at some point determine it needs to do about that, what the response from North Korea might be, and what might happen if, either as a result of war, social pressures, economic pressures, or political pressures, if North Korea collapses.

At that point, you have between 50 and 75 nuclear weapons, we estimate by 2020, that might be used or might be lost. And so we are running a series of war games that will look at those additional things. And we will have to consider, in addition to things we have talked about [with] reference to the Baltics, what you would need in those other contingencies. Thank you, sir.

Mr. TURNER. Are you assuming that there is not a China response that would inhibit our response to North Korea?

Mr. BONDS. So that is a great question. We actually think there will be a China response. We think it can actually be a productive one, if it is something that is worked on in advance. The question will be, how far south do they come? How completely do they secure the nuclear weapon sites that they come across?

You want to make sure that they are diligent about securing them from theft and proliferation, but also how do we at least deconflict with them and perhaps cooperate with them so that it is really a combined approach to dealing with the problem.

Mr. TURNER. Mr. Hunter.

Mr. HUNTER. Thank you for the opportunity to add on, because I really wanted to get to a larger point about Army modernization in general. I think what today's hearing and what this situation and NATO's eastern flank highlights is the fact that we don't have a tremendous amount of time to wait around for the next great Army to show up in 10 to 15 to 20 years.

You know, that is an arguable point. There are some who say, you know, the technologies that are available in the near term aren't attractive enough, aren't compelling enough to induce us to want to make a major investment.

But my view is that you have got real threats and challenges in the near term that you are going to need to address. And since you



don't have 10 to 15 years to wait to deal with those problems, you have to adopt a modernization strategy that you can implement and start to iterate improvements across the Army's force relatively quickly. And that is what leads me in our study, which will be coming out soon, to a strategy that looks at making more of these incremental improvements and iterating them across the force very rapidly.

Now, of course, the key part is it is going to take more funding to do that, as I outlined in my opening statement and in my written testimony. And when you see that, for example, today, you know, the Army's plan is to field the next increment of WIN-T [Project Manager Warfighter Information Network-Tactical] over a 40-year time period before they finish fielding it to the entire Army, that's not rapid. I don't think that is going to get the job done.

To be fair to the Army, they are put in a really no-win situation with the Budget Control Act caps and the drawdown that happened. I think they did a relatively good job of protecting the vital capabilities of the Army in a cut drill. But we are in a different situation now. And so we have an opportunity to come up with a strategy that is focused on meeting these new challenges, not simply trying to avoid more harm.

Mr. TURNER. Mr. Shlapak.

Mr. SHLAPAK. I would like to vehemently agree with Mr. Hunter. This is all about deterrence. To fight Russia and win would be a strategic failure of the first magnitude. And so the question is to think about what really are the requirements of deterrence.

So Mr. Brooks mentioned learning from history. Historically, I think we know that countries and particularly great powers start wars for two reasons. They start them because they have to or they think they have to. Japan in 1941 felt itself cornered, saw a menu of bad options, thought the best of the bad options was to attack the United States in hope that it would knock us far enough back that it could consolidate its position and then negotiate from a position of strength.

They also start wars because they see opportunities, because they see opportunities to achieve important strategic goals rapidly, at minimum risk, at low cost. These are the wars that are going to be over by Christmas, the wars that you send your soldiers off to with flowers and marching bands. Now, they are almost always wrong, but that doesn't mean they don't do it.

Right now, when Mr. Putin looks across his border at the Baltic States, he potentially sees the opportunity to launch—to impose a crushing strategic defeat on what he identifies as the number one threat to the Russian Federation, which is NATO, rapidly, at minimal risk, and at low cost.

The challenge to NATO is to change that picture, to make it look like a different fight, to make it look like a high-risk, high-cost war with the most advanced, most powerful, richest alliance that the world has ever seen. That is what our work is designed to do. That is what the force we recommend is designed to create, that level of deterrent. That is what this is about. Thank you for your time.

Mr. TURNER. I appreciate your comments. And one aspect of deterrence is leadership, and that aspect of leadership is resolve. And



I think certainly a calculus that we have to include in all that is an understanding that when the Russian leadership looks out, that they see leadership looking back.

That is something that we need, regardless of technology, capability, or deployment. And I know it is certainly part of the debate we are having now, and you are contributing to it.

So thank you so much for that. And with that, we will conclude.  
[Whereupon, at 5:05 p.m., the subcommittee was adjourned.]







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# **A P P E N D I X**

MARCH 1, 2017

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**PREPARED STATEMENTS SUBMITTED FOR THE RECORD**

MARCH 1, 2017

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**Statement of the Honorable Michael Turner**  
**Chairman, Subcommittee on Tactical Air and Land Forces**  
**Hearing: U.S. Ground Force Capability and Modernization Challenges**  
**in Eastern Europe**  
**March 1, 2017**

The hearing will come to order.

Today we will receive testimony on the operational and strategic challenges facing U.S. and NATO forces in deterring, as well as responding to, Russian aggression on the North Atlantic Treaty Organization's (NATO) eastern flank.

I'd like to welcome our distinguished panel:

**Mr. David A. Shlapak**, Senior International Research Analyst and Co-Director, Center for Gaming, RAND Corporation

**Mr. Timothy M. Bonds**, Vice President, Army Research Division, and Director, RAND Arroyo Center

**Mr. Andrew P. Hunter**, Director, Defense Industrial Initiatives Group, and Senior Fellow, International Security Program for the Center for Strategic and International Studies

Beginning with the invasion of Crimea in 2014, followed by incursions into East Ukraine, Russia continues to take aggressive actions in overturning European security.

The Chairman of the Joint Chiefs of Staff, General Joseph Dunford, has stated that "Russia presents the greatest threat to our national security," and that "what they seek to do is undermine the credibility of our ability to meet our alliance commitments to NATO."

Reported just last week, a Russian intelligence collection ship was operating off the east coast of the United States. Russian military aircraft have made high-speed passes over U.S. Navy ships operating in the Black Sea, and recent media reports indicate Russia has operationally deployed a new ground-launched cruise missile that violates the Intermediate-range Nuclear Forces treaty and directly threatens NATO allies.

Secretary Mattis and Vice President Pence have reaffirmed the United States' commitment to NATO, and also made it clear that Russia would be held accountable for its actions.

As the former President of the NATO Parliamentary Assembly (PA), and current head of the U.S. delegation to the NATO PA I am in agreement with the Secretary and the Vice President's position.

NATO's first goal is to prevent conflict. And highly ready, forward deployed, military forces contribute to this by deterring conventional conflict.



Actions have been taken by NATO in response to this continued Russian aggression; for example at the Wales Summit, NATO heads of state established a Readiness Action Plan and stood up an enhanced NATO response force.

The United States remains fully prepared to meet Article 5 commitments to NATO allies; however, if we are to rebuild a credible deterrent posture in Europe, then NATO nations also need to meet their agreed-upon goal of spending 2 percent of gross domestic product on defense. Only five nations do so now.

Despite taking these actions, a major challenge for the U.S. and NATO continues to be reestablishing a credible forward presence of ready military forces.

The previous Administration's strategy in Europe assumed that a small forward deployed presence, augmented by a small rotational force, would provide credible deterrence; that assumption has been proven wrong.

So reviewing our current force structure in Europe is an excellent place to start for understanding current gaps in the capability and capacity of our ground forces, and can be applied to ground forces writ-large.

Besides the broader strategic policy implications of reassuring members of the NATO alliance, the witnesses today are prepared to discuss what is required by our ground forces from a modernization perspective in the near term to improve force posture, and mitigate potential threats posed by Russia.

Of special interest to the subcommittee today are the findings and observations from the most recent RAND wargame report (2016) on the defense of the Baltics entitled, "*Reinforcing Deterrence on NATO's Eastern Flank*" that raised alarming concerns regarding current U.S. and NATO military posture in Europe.

The European Reassurance Initiative and multi-lateral training exercises, like Operation Atlantic Resolve, have been good first steps in improving forward presence in Europe and reassuring our Allies; however, the reality is that more resources and actions are required.

Given the threats posed by Russian aggression, we need to move from a position of reassurance to a position of deterrence---credible deterrence.

Finally, I want to close with a quote from Lieutenant General John W. Nicholson, the former commander of NATO's Allied Land Command, "Military readiness costs money, but the costs of readiness pale in comparison to the human and material costs of war."



## Deterring Russian Aggression in the Baltic States

### What it Takes to Win

David A. Shlapak

CT-467

Testimony presented before the House Armed Services Committee, Subcommittee on Tactical Air and Land Forces on March 1, 2017.





For more information on this publication, visit [www.rand.org/pubs/testimonies/CT467.html](http://www.rand.org/pubs/testimonies/CT467.html)

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*What it Takes to Win**Deterring Russian Aggression in the Baltic States*

Testimony of David A. Shlapak<sup>1</sup>  
The RAND Corporation<sup>2</sup>

Before the Committee on Armed Services  
Subcommittee on Tactical Land and Air Forces  
United States House of Representatives

March 1, 2017

Put most plainly, the United States and the North Atlantic Treaty Organization (NATO) confront three related challenges in deterring Russian aggression in the Baltics (and, more generally, wherever NATO territory may be threatened). Solving all three of these is vital to achieving core American objectives in Europe, which have been consistent and strong, through Republican administrations and Democratic, liberal and conservative, since 1945: ensure peace and stability, support democratic and market forces, and prevent the use of armed force to coerce the free people of Europe or to alter established borders. In this context, “winning” means putting in place the wherewithal to effectively deter any Russian adventurism aimed at NATO member states by being prepared to deny Moscow its objectives without escalating to the first use of nuclear weapons.

It is critical to note that “victory” here does not mean fighting a war with Russia and winning; that would be a strategic failure of historic dimensions. It means preventing conflict through a combination of strength and engagement not terribly unlike—in concept, if not scale—that which ultimately brought the Cold War to a conclusion with the fall of the Berlin Wall and the dissolution of the Soviet Union.

These conditions do not exist today. RAND has conducted a series of war games—more than 20, over a period now approaching three years—that have demonstrated that NATO’s current posture is woefully inadequate to resist a Russian attack on the Baltic states of Estonia, Latvia, and Lithuania. We had participants from throughout the U.S. defense and intelligence

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<sup>1</sup> The opinions and conclusions expressed in this testimony are the author’s alone and should not be interpreted as representing those of the RAND Corporation or any of the sponsors of its research.

<sup>2</sup> The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.



communities at these war games, as well as our NATO allies. In no case have they been able to keep Russian forces from the Estonian capital of Tallinn or the Latvian capital of Riga for more than 60 hours; in some cases, NATO's defeat has been written into history in a day and a half. Such an outcome would leave the United States and NATO with no good options, Russia potentially re-established as the dominant strategic actor in Central Europe, NATO collapsed, and the trans-Atlantic security bond in tatters. It would make a failure of nearly 75 years of bipartisan American efforts to sustain the security of Europe, which Democrats and Republicans alike, since Harry Truman and Dwight Eisenhower, have understood to be vital to the safety and prosperity of the United States.

The first step towards winning eventually is not losing right now, which would be NATO's current fate. So, NATO needs to be able to *stay in the game*. The minimum requirement for deterrence by denial along NATO's frontier with Russia is not to offer Moscow a vision of an easy strategic victory—the chance to register a *fait accompli* against minimal resistance. While on any given day, the Russian leadership may not be tempted to seize even such tempting low-hanging fruit, the challenge NATO confronts is not successfully to deter on an average day; it is to deter on the one day out of a thousand, or 5,000, when Moscow, for whatever reason, sees the prospect of a crushing win over its most dangerous adversary as an attractive prospect.

The requirements for this are nontrivial, but hardly overwhelming. RAND analysis indicates that a force of about seven brigades, including, importantly three armor-heavy brigades—armor brigade combat teams (ABCTs), in U.S. Army parlance—in addition to the national defense forces of the Baltic states, and properly supported with fires, fixed- and rotary-wing aviation, engineering, logistics, and other enablers, and with adequate headquarters capacity for planning and command can prevent the *fait accompli*.<sup>3</sup> To be very specific, this force—present and ready to fight at the outset of hostilities—can, if properly employed, enforce an operational pause on a Russian ground force of up to 40–50 battalion tactical groups (BTGs), while retaining sufficiently large lodgments outside Tallinn and Riga to protect them from the bulk of Russian artillery.

Our assessment is that this force could sustain itself on the defensive against the Russian offensive for up to 28 days. This leads to the second of the three challenges NATO faces: *winning the game*. While deterrence is greatly enhanced by the ability to deny Russia a quick win, ultimately the seven-brigade force appears inadequate to hold out indefinitely against the much larger and heavier Russian order of battle, let alone counterattack to evict them from NATO territory.<sup>4</sup> Accomplishing this requires a substantial additional increment of force.

We currently estimate that an additional nine to 14 maneuver brigades—again, properly supported by fires and other enablers—would need to be prepared to counterattack to restore

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<sup>3</sup> See David A Shlapak and Michael Johnson, *Reinforcing Deterrence on NATO's Eastern Flank: Wargaming the Defense of the Baltics*, Santa Monica: RAND, RR-1253-A, 2016. A U.S. Army ABCT consists of over 4,500 soldiers and includes about 90 tanks, 90 infantry fighting vehicles, and several hundred other tracked and wheeled vehicles.

<sup>4</sup> As the discussion should make clear, the seven-brigade force cannot conduct a forward defense of the Baltic states; significant amounts of territory would likely be lost to the initial Russian offensive. We have not conducted any analysis of the size of the force needed to hold the line far forward.



lines of communication from Poland towards Riga, reinforce defense, and eventually conduct a counteroffensive to drive the Russians back behind their prewar borders.<sup>5</sup> Further analysis is needed on this issue; while the general nature and scale of the required force is clear, its generation—most European NATO armies are ill-prepared to contribute significant heavy forces on short notice—deployment, and sustainment need examination.

Both staying in and winning the game—which are about putting in place the pieces of an *unambiguously credible conventional deterrent posture*—require more than combat troops. Today, NATO’s defense infrastructure—the array of headquarters, bases, other facilities, lines of communications, transportation assets and legal arrangement to facilitate the deployment and sustainment of forces—is woefully inadequate to support a warfighting posture east of the Oder River. U.S. support operations remain localized in southwestern Germany, more than 1,000 miles from the likely combat front east of Riga; attempting to support multibrigade operations from that distance would be a logistical impossibility. The United States and especially its European allies need to make careful, focused, but likely extensive investment in revamping and revitalizing NATO’s ability to receive, move, and support large combat formations along its eastern boundary, and especially in all three Baltic states.

Substantial work is still needed to determine precisely what needs to be done and how to prioritize this work. However, RAND’s wargaming suggests that NATO needs to be able to rapidly mobilize, deploy, fight, and sustain up to 21 maneuver brigades, organized probably in two or three corps, in a full-scale conflict with Russia in the Baltics. Given current plans and capabilities, the U.S. Army might be expected to supply up to 12 of those brigades:

- up to three ABCTs stationed in the Baltics—the “stay in the game” force.<sup>6</sup>
- three more ABCTs drawn from secure brigade-sized prepositioning sites
- up to six additional armored, infantry (IBCT), or Stryker brigade combat teams.

The Army should also anticipate potentially being called upon to deploy and support three or four fires brigades—at least one permanently stationed in the region and another in prepositioning—and two or three combat aviation brigades.

Because NATO’s command and control structure relies on consensus decisionmaking by the alliance’s political leadership, the United States may also be obligated to provide at least one Corps headquarters to perform prewar planning and warfighting command, at least in the initial stages of any fast-moving conflict.

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<sup>5</sup> See Tim Bonds, *Limiting Regret: Building the Army We Will Need*, Santa Monica: RAND, CT-437, 2015. NATO’s air forces would also likely require reinforcement to make up for losses during this time frame. However, the most crippling problem confronting NATO’s airpower after the first few days of conflict would be shortfalls in the most modern and effective weapons and munitions.

<sup>6</sup> Currently, the three eFP battlegroups spread across Estonia, Latvia, and Lithuania could, in aggregate and with proper training and exercising, fill one of the three heavy brigade requirements for the “stay in the game” deterrent. However, as currently conceived, each will be tightly integrated with the national defense forces of the host country, and there are no plans to ever treat them as an integrated combat force. Hence, we do not count them against the requirement for three heavy brigade for the initial deterrent force; initial wargaming of the “post-Warsaw Summit” NATO posture suggests that this is appropriate.



Critical to all of this will be NATO's approach to exercising and training. All of the investment in soldiers and equipment, railroad cars and planning, will be of little use if the alliance doesn't realistically exercise its plans and capabilities. The successful deployment of the first "heel-to-toe" U.S. rotational ABCT in January 2017 was a sign of how far the U.S. Army, both at home and in Europe, has come in a very short time—such an exercise could hardly have been imagined a few years ago. However, all involved recognize that the long-planned movement of a single brigade is hardly a full test of the scale and complexity of the activity that would be necessary to respond to a full-blown crisis in the region. And unfortunately, the threat exists today—the United States and its allies must "spin up" to confront it with some degree of urgency. A robust and increasingly realistic schedule of deployment and warfighting exercises, combined with aggressive home station and predeployment training, is absolutely necessary.

All of this will cost money. As the new Administration, the Pentagon, and Congress contemplate increases in defense spending, the Army has the opportunity—and the obligation—to make resource allocation choices that result not just in a bigger Army, but a more capable one, better able to execute the Service's most vital missions to support the nation's most vital interests, one of which is surely deterring conflict with the only other power able to extinguish our way of life in a matter of minutes. This means among other things taking the opportunity to expand the number of ABCTs in the force. The currently planned number of 10 active heavy brigades (the nine current ones, plus another scheduled for conversion from an IBCT) is entirely inadequate to support requirements in Korea, the Middle East, and Europe. Indeed, Europe alone could demand six, a commitment that the planned force could likely not support and certainly could not sustain.

Finally, the third challenge is that the United States and its allies must sustain deterrence—through the demonstrated capacity to *stay in the game* and then *win it*—without behaving in such a way that they unnecessarily increase the likelihood of a catastrophic outcome—*blowing up the game*.

As discussed above, any potential crisis or conflict with Russia would lie deep in the proverbial shadow cast by nuclear weapons. A strong conventional deterrent helps manage these dangers: first, by decreasing the overall likelihood of a conflict erupting and, second, by reducing the pressure on the NATO side to contemplate immediate nuclear escalation to ward off rapid defeat. It may increase these dangers, however, by magnifying fears on the Russian side either of a NATO offensive threat or of the potential consequences to Moscow of being conventionally defeated should it fail to be deterred.

On the first score, the operational realities of the situation should serve to mitigate actual, if not rhetorical, Russian anxieties. Less than a handful of NATO brigades on Baltic territory, even backed by the alliance's ultimately superior air and sea power, do not represent a credible threat to the territory of the Russian Republic. The notion of NATO mounting an attack on Russia with three brigades is strategically, operationally, and tactically absurd—even assuming that the alliance would somehow reach agreement to undertake such a course.

The latter fear is more difficult to mitigate, since ultimately the prospect of precisely such a defeat is the basis of the deterrent NATO hopes to present. That said, it at least in part can be



managed by carefully communicating to Moscow NATO's intent, and backing those words with appropriate actions.

Thus, the alliance and the United States must continue to seek to maintain channels of communication with Russia at the political and military levels. Only if the two sides are talking—even about minor issues, such as managing incidents at sea or in the air—can they make progress towards allaying mutual suspicions, thereby rendering the mutual deterrence equation more stable and perhaps, ultimately, less necessary.

The idea of talking with the Russians while maintaining a posture of military strength is neither contradictory nor new. For years, it has been the foundation of U.S. policy towards its rising East Asian great power competitor, China, and it was the approach that characterized the last 20 years of the Cold War.

The United States and its allies consistently sought dialog with the Soviet Union across a wide range of grounds, from the narrowest questions of enhancing the safety of forces operating in close proximity to the broadest ones of human rights, while expending herculean efforts to maintain powerful military deterrents against the prospect of Soviet aggression.

To summarize: Today, NATO does not have in place an adequate conventional deterrent to Russian aggression against its most exposed member states, the Baltic republics of Estonia, Latvia, and Lithuania. A minimum deterrent—one that keeps NATO in the game for longer than two or three days—requires a force of about seven brigades, three of them armored, with appropriate support and sustainment. A more robust posture—one that can “win the game” by successfully defending for an extended period and, if necessary, eventually counterattacking to eject Russian forces—will require up to 12 additional brigades from the United States and its allies. NATO's efforts to rebuild its conventional deterrent posture must be combined with an ongoing attempt to establish productive dialogue with Moscow, to reduce the propensity for crisis and minimize the chances of blowing up the game.

I thank you for the opportunity to testify today and stand ready to address your questions.





OBJECTIVE ANALYSIS. EFFECTIVE SOLUTIONS.

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## **David A. Shlapak**

**Senior International Research Analyst; Codirector,  
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### **Education**

B.A. in political science, Northwestern University

David A. Shlapak is a senior international research analyst at the RAND Corporation and codirector of the RAND Center for Gaming. Since joining RAND in 1982, he has led research on topics ranging from counter-terrorism to nuclear strategy. His primary current areas of research include U.S. national security strategy, the evolving East Asian and European security environments, and the use of gaming and simulation in defense planning. Shlapak is a graduate of Northwestern University and did his graduate work at UCLA.



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**Foreign Government Contract or Payment Information****FY2017**

Foreign Contract/Payment	Foreign Government	Dollar Value	Subject of contract or payment
Contract	South Korea	\$90,000	Research
Contract	Japan	\$195,351	Research

**FY2016**

Foreign Contract/Payment	Foreign Government	Dollar Value	Subject of contract or payment
Contract	Commonwealth of Australia	\$1,521,072	Research
Contract	Jinan Water Resources Bureau – Peoples Republic of China	\$355,652	Research
Contract	Japan	\$207,700	Research
Contract	South Korea	\$249,040	Research
Contract	United Arab Emirates	\$3,155,000	Research
Contract	Kurdistan Regional	\$2,714,789	Research



	Government		
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**FY15**

Foreign Contract/Payment	Foreign Government	Dollar Value	Subject of contract or payment
Contract	Commonwealth of Australia	\$9,104,636	Research
Contract	Canada	\$17,624	Research
Contract	Japan	\$207,700	Research
Contract	South Korea	\$100,000	Research



## Limiting Regret

### Building the Army We Will Need—An Update

Tim Bonds

CT-466

Testimony presented before the Committee on Armed Services, Subcommittee on Tactical Land and Air Forces on March 1, 2017.





For more information on this publication, visit [www.rand.org/pubs/testimonies/CT466.html](http://www.rand.org/pubs/testimonies/CT466.html)

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Testimony of Tim Bonds<sup>1</sup>  
The RAND Corporation<sup>2</sup>

Before the Committee on Armed Services  
Subcommittee on Tactical Land and Air Forces  
United States House of Representatives

March 1, 2017

**T**hank you Chairman Turner, Ranking Member Tsongas, and members of the subcommittee for inviting me to speak with you. It is an honor for me to be here today. I would like to share an analysis on closing the gap between the security commitments the United States has made and the ground forces that the Department of Defense (DoD) has planned to fulfill U.S. commitments.<sup>3</sup>

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<sup>1</sup> The opinions and conclusions expressed in this testimony are the author's alone and should not be interpreted as representing those of the RAND Corporation or any of the sponsors of its research.

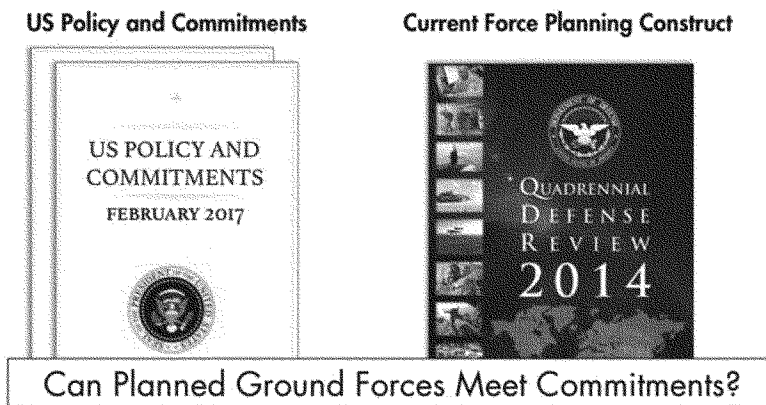
<sup>2</sup> The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

<sup>3</sup> This analysis draws upon publicly available materials, published RAND national security research, and RAND wargaming and analytic expertise to evaluate the U.S. Army's ability to help execute the national defense strategy against key threats. This analysis was funded by philanthropic contributions from RAND supporters and income from operations.



The Army describes its capability to support the nation's security commitments in terms of three factors: (1) its number of soldiers—what it refers to as its “end-strength”; (2) how well prepared its units are to operate —what the Army refers to as its “readiness”; and (3) how modern its equipment is. What I would like to talk about today is how big and ready the nation needs its Army to be—from a joint perspective—to fulfill America's commitments and limit future regret about the decisions that the nation makes today.

I have three main messages today: (1) the world has changed since the decisions in the 2014 Quadrennial Defense Review (QDR) set the size and capabilities of the forces we have today; (2) emerging and growing threats make it more likely that U.S. commitments in key regions will be challenged; and (3) the current trend in force planning will leave us with an Army too small to credibly sustain U.S. commitments and interests under the shadow of emerging and growing threats.



The latest review of Army force size and capabilities, contained within the March 2014 QDR, “rebalanced” U.S. military operations to the Asia-Pacific and prescribed cuts in Army end strength. This included reducing the regular Army from 570,000 soldiers to 450,000; reducing the Army National Guard from 385,000 to 335,000; and reducing the Army Reserve from 205,000 to 195,000. Further reductions in each component were anticipated.

But many challenges to U.S. security have emerged or worsened since the 2014 QDR. In response, the work of this subcommittee, as reflected in the National Defense Authorization Act, increased the size of the Army to 476,000 soldiers in the regular Army, 343,000 in the Army National Guard, and 199,000 in the Army Reserve. In addition, it paused the Marine Corps



drawdown at 184,000. This increase in Army size and pause in Marine Corps drawdown will increase the nation's capacity to meet these security challenges—if these forces are fully resourced and matched with the funds needed to ready these soldiers and equip them with modern weapons.

As the Trump Administration develops its defense policy and strategy, it needs to assess whether further growth in the nation's ground force size, capabilities, and posture may be needed.



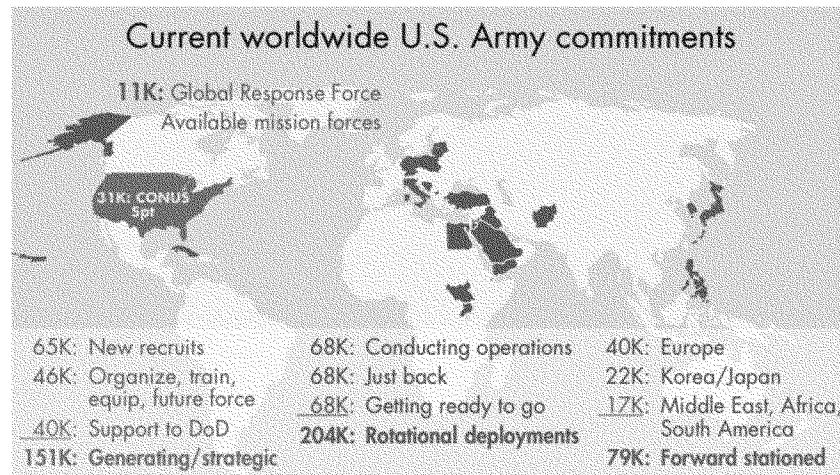
US Policy and Commitments	Current Force Planning Construct
How are we using the Army we have?	
What commitments has the U.S. made?	
What would be the regret of not meeting those commitments?	
How large a ground force could be needed to meet our commitments?	

To begin this assessment, we sought answers to four specific questions:

- How is the Army being used now around the globe?
- What has the United States committed itself to do?
- What regret might the nation have if it does not meet those commitments?
- How large a ground force could be needed to meet those commitments?

The final question assumes that the ground force would be employed as part of joint air, sea, land, space, and cyber operations as one component of national power, in addition to diplomatic, economic, and other measures.



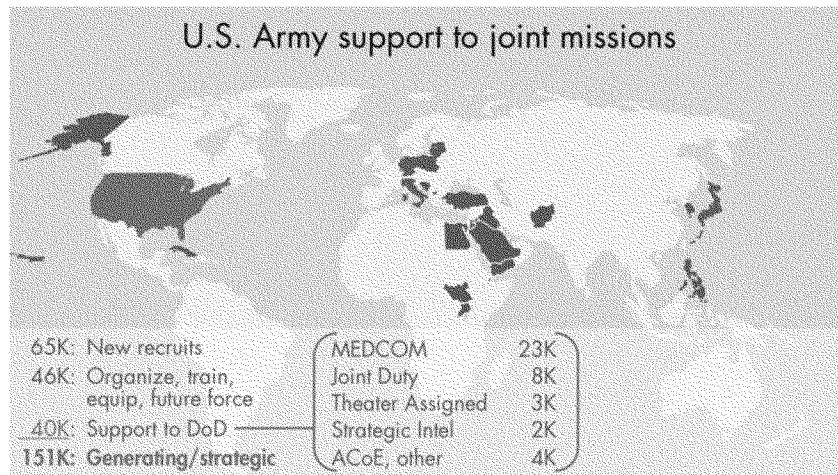


The United States currently maintains forces worldwide, as shown on the above map. Specifically, as highlighted on in red, the Army has 68,000 soldiers on rotational deployments to the Baltics, Iraq, the Persian Gulf, Africa, Afghanistan, South Korea, and other places around the world.

These soldiers are deployed on a rotational basis, so it takes more than 68,000 troops to maintain a constant presence in a given theater. For the Army, forces could be deployed for nine months, followed by 18 months at home—a 1:2 deployment ratio. At a 1:2 deployment ratio, 204,000 troops are needed to keep 68,000 troops deployed in the field—68,000 conducting operations, 68,000 just back, and 68,000 more getting ready to go.

Also shown on the map in blue are the 40,000 troops the Army has assigned to US European Command and with the North Atlantic Treaty Organization (NATO); the 22,000 troops forward stationed in South Korea and Japan; and the 17,000 additional soldiers forward stationed in other parts of the world. Because these 79,000 soldiers are home-based in these regions, they are all postured to support contingencies. Finally, the Army has 31,000 soldiers in the United States, providing a variety of support for ongoing missions. (Many of these may be the 23,000 Army National Guard and Army Reserve soldiers on active duty in February 2017). At an end strength of 476,000 regular soldiers, the Army would also have 11,000 soldiers in the continental United States (CONUS) supporting the Global Response Force (GRF), along with other forces available for assigned missions.





Let me also mention the 151,000 soldiers conducting generating-force and strategic activities. At present, about 65,000 new soldiers are undergoing training or education; approximately 46,000 soldiers are organizing, training, and equipping the Army and building the capabilities that the United States will need in the future; and 40,000 soldiers are providing support for joint and national missions, including the 23,000 soldiers in Army Medical Command and the 8,000 soldiers in joint assignments, such as combatant commanders and other senior officials. Additional soldiers are assigned to theater commands, strategic intelligence, U.S. Cyber Command, and other activities that support the DoD.



US Policy and Commitments	Current Force Planning Construct
ISIL: "To these forces of death and destruction: America and its allies will defeat you"	ISIL and continuing ops in Afghanistan not anticipated
NATO: "America stands with those who stand in defense of freedom. We have your back every hour, every day, now and always."	Did not anticipate Russian annexation of Crimea and invasion of Ukraine
"Ironclad commitment to defend the ROK, including ... extended deterrence, using the full range of military capabilities."	North Korean artillery threat and WMD program larger than anticipated
Iran: "As of today, we are officially putting Iran on notice."	Persian Gulf focus limited to building partner capacity
"We are committed to the security of Japan and all areas under its administrative control"	Focused on partner space, cyber, missile and maritime defense, HADR capacity

Given the forces available, the question then is how such forces map against the commitments the United States has made. We list above several recent statements of intent by the Trump Administration. In this testimony, we will focus on three of our commitments that are particularly salient today: our commitment to defeat violent extremism, our commitment to defend our NATO allies, and our commitment to defend South Korea.

First, the national strategy commits the United States to combatting the persistent threat of terrorism. President Trump has specifically stated that "today, we deliver a message in one very unified voice: To these forces of death and destruction, America and its allies will defeat you."<sup>4</sup> However, our current force planning mainly considered efforts to continue to degrade al Qaeda. It turns out that the Middle East is in much worse shape than we assumed in our planned "rebalance" to the Pacific: The Taliban remains a threat to the government of Afghanistan, and the rise of ISIL—and its seizure of population centers—was not anticipated in our force planning.<sup>5</sup> Therefore, the forces that have been deployed to these areas further reduce our available capacity for more serious threats to America's security.

<sup>4</sup> The White House, Office of the Press Secretary, "Remarks by President Trump to Coalition Representatives and Senior U.S. Commanders," MacDill Air Force Base, Tampa, Florida, February 6, 2017b.

<sup>5</sup> The ISIL organization's name transliterates from Arabic as *al-Dawlah al-Islamiyah fi al-'Iraq wa al-Sham* (abbreviated as Da'ish or DAESH). In the West, it is commonly referred to as the Islamic State of Iraq and the Levant (ISIL), the Islamic State of Iraq and Syria, the Islamic State of Iraq and the Sham (both abbreviated as ISIS), or simply as the Islamic State (IS). Arguments abound as to which is the most accurate translation, but here we refer to the group as ISIL.



The next two commitments are related. Our nation has long been committed to assuring allies and deterring, defeating, and denying aggression in multiple theaters. Regarding NATO, in the same speech, President Trump stated that:

We will make a historic financial investment in the Armed Forces of the United States and show the entire world that America stands with those who stand in defense of freedom. We have your back every hour, every day, now and always.<sup>6</sup>

He has also commented on the fact that many of our NATO partners have not yet met their obligation to increase defense spending to 2 percent of GDP; stating that:

That also means getting our allies to pay their fair share. It's been very unfair to us. We strongly support NATO. We only ask that all of the NATO members make their full and proper financial contributions to the NATO alliance, which many of them have not been doing. Many of them have not been even close, and they have to do that.

Our NATO allies have agreed to increase their spending in order to contribute their fair share to our collective security.<sup>7</sup> Even if and as they do so, however, it will take some time for those increased investments to result in the needed forces in the field. In the meantime, the United States must decide whether it is willing to bridge this gap with our allies, increasing their share as time goes on.

However, the current force planning in the 2014 QDR does not provide sufficient ground capabilities for the United States to sustain a defense against Russian aggression. The QDR did not anticipate the Russian invasion of Ukraine and its potential implications for the NATO Baltic states. There are some references in the QDR to concerns about Russia's behavior, including:

Russia's multidimensional defense modernization and actions that violate the sovereignty of its neighbors present risks. We will engage Russia to increase transparency and reduce the risk of military miscalculation.

Other than that, the QDR force-planning construct does not anticipate what President Obama later described as Russia's "brazen assault on the territorial integrity of Ukraine."

Finally, this and previous administrations have long acknowledged the dangers that weapons of mass destruction (WMD) pose to the United States, its allies and friends, and their interests. In a phone call with acting South Korean President Hwang Kyo-Ahn, the White House reports that President Trump "reiterated our ironclad commitment to defend the ROK, including through the provision of extended deterrence, using the full range of military capabilities." The statement further reports, "The two leaders agreed to take steps to strengthen joint defense capabilities to defend against the North Korean threat."<sup>8</sup>

<sup>6</sup> The White House, Office of the Press Secretary, 2017b.

<sup>7</sup> NATO, "Wales Summit Declaration Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Wales," September 5, 2014.

<sup>8</sup> The White House, Office of the Press Secretary, "Readout of the President's Call with Acting President Hwang Kyo-Ahn of the Republic of Korea," January 29, 2017a.



The QDR does address deterring a North Korean attack and countering WMDs to some degree. However, the scope and scale of needed capabilities are not fully addressed. In particular, the QDR does not anticipate the scope and scale of countering provocations that could escalate to a massive North Korean artillery barrage of South Korea. Similarly, the problem of “loose nukes” is described in terms of counterterror and special operations, but not in terms of securing the entire North Korean nuclear program, including an estimated 200 separate sites, from theft and proliferation.<sup>9</sup>

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<sup>9</sup> Timothy M. Bonds, Eric V. Larson, Derek Eaton, and Richard E. Darilek, *Strategy-Policy Mismatch: How the U.S. Army Can Help Close Gaps in Countering Weapons of Mass Destruction*, Santa Monica, Calif.: RAND Corporation, RR-541-RC, 2014 (as of September 1, 2015: [http://www.rand.org/pubs/research\\_reports/RR541.html](http://www.rand.org/pubs/research_reports/RR541.html)).



## Potential regret: enduring violent extremist groups



- Destabilize neighbors
- Harm captured peoples
- Exploit sanctuary, sustainable economic base, global recruiting pipeline
- Export violence to U.S., allies, and friends

Given that our most recent defense plans have not completely anticipated current threats, let's examine the regrets that the nation might face if it does not meet the commitments we have made to meet those threats.

For our first example, what might happen if the United States does not continue its missions to defeat ISIL, al Qaeda, the Taliban, and other violent extremist groups around the world? One potential regret is enduring terror movements that continue to destabilize vulnerable nations and whole regions; harm captured peoples; exploit captured territory to train terrorists, raise funds, and attract new recruits; and export violence to the United States and its allies and friends.

It remains unknown whether currently deployed forces are sufficient to achieve U.S. objectives. In fact, the United States has steadily increased troop deployments to Iraq and Syria and extended the mission in Afghanistan. However, this analysis assumes that U.S. ground forces will remain engaged at their current levels against extremist groups in order to continue to degrade them. Therefore, we assume here that these troops could not be pulled away for other operations without ending this mission. It is also possible that countering violent extremists will require more troops if the mission changes—for example, if additional ground troops are committed to combat operations, such as those in Syria and Iraq. Total troop requirements would remain those shown earlier as the worldwide commitments.



## Potential regret: fractured NATO or war

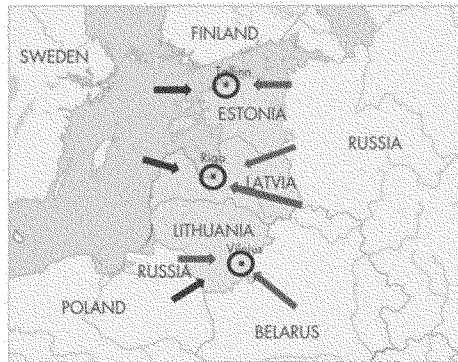


- Russian “volunteers” could destabilize Baltics
- Rapid invasion could present fait accompli
- Would leave few and bad choices for U.S.

For our second example, how might Russia take the same course in the Baltics that it has taken in Ukraine? Russian “volunteers” could enter and destabilize Estonia and Latvia, or worse, conventional forces could launch a surprise invasion and present a fait accompli to NATO. We estimate that against currently stationed forces, the Russians could reach the Baltic capitals in 36–60 hours. That would leave the President with few and bad choices. The President could negotiate for the Russians to leave and risk the fracture of NATO if negotiations and sanctions drag on for months or years, or the President could choose to launch a counteroffensive to retake NATO territory—against a nuclear-armed Russia that has threatened first use of nuclear weapons to defend its territory from conventional attack and prevent its military from being destroyed. While the risk of war with Russia is small, and the risks of escalation to nuclear conflict are smaller still, neither risk is zero. Since the human and financial costs of both would be catastrophic, it is prudent to hedge against them.



## New threat: fractured NATO or war



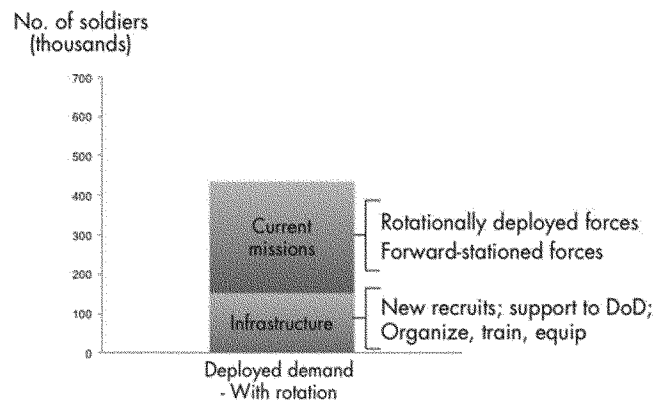
- Rapid invasion could present fait accompli
- Would leave few and bad choices for U.S
- NATO armored ground forces needed to:
  - Prevent overrun
  - Repulse invasion

Instead, NATO—and the United States—might place armored brigades in the Baltics. These armored brigades, along with other U.S. and NATO forces able to quickly deploy on warning, would be capable of denying Russia a quick victory. Such forces could be permanently stationed or rotationally deployed. These ground forces would be supported by air and sea power from the United States and its NATO allies. The European Reassurance Initiative and the four NATO battalion tactical groups deployed to Poland and the Baltics have made an important statement of alliance commitment and an initial “down payment” on the forces needed, but are not yet close to the amounts required to deny Russia a quick overrun of the Baltics.

If the Russians attacked under this scenario, the United States and NATO would send air, sea, and land reinforcements to deny a Russian victory. Additional U.S. and NATO forces would be needed to defeat Russian forces and reverse any Russian territorial gains.



## Current worldwide U.S. Army commitments

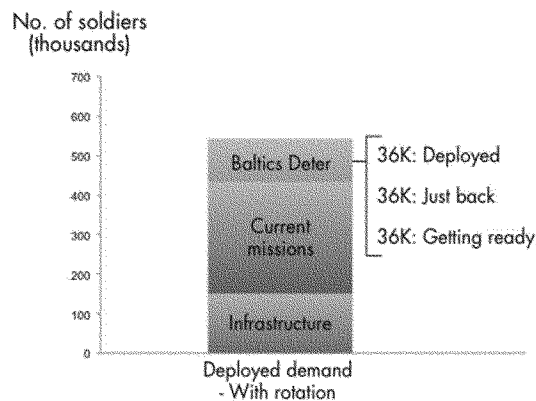


We will now assess the numbers of ground forces needed for the missions described above. We will begin with continuing infrastructure tasks, including training new troops, supporting joint missions, and current overseas missions.

Adding the forces supporting current missions, we have a demand for 434,000 soldiers to support infrastructure tasks and current missions. This includes the troops who are rotationally deployed; those forward-stationed in Europe, South Korea, and other places; and those supporting generating- and strategic-force operations (but who are not in the GRF or available for other missions).



## Additional demand for Baltics deterrent

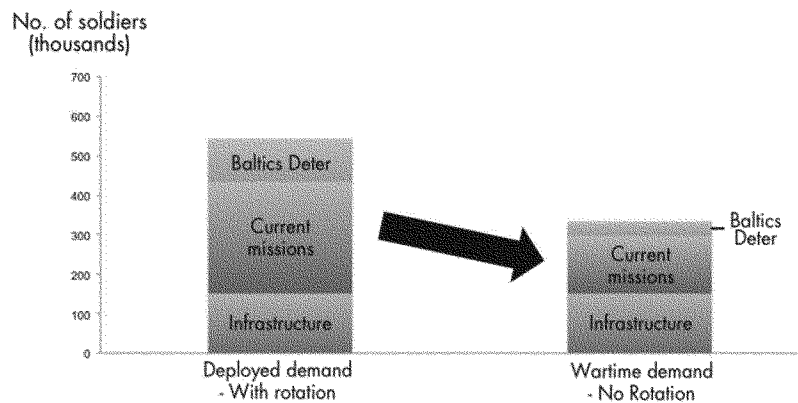


How large of an additional force would be required to deter and defeat aggression in the Baltics (shown here in orange)? For the deterrent force, we estimate that a total of three armored brigades would be needed on the ground in the Baltics on the day fighting started, along with the two U.S. brigades and supporting soldiers already in Europe, and two other U.S. Army and NATO rapid reaction brigades (the 82nd Airborne GRF and the NATO Very High Readiness Task Force) that can deploy to the Baltics on warning. In the future, our NATO allies should be able to provide one or more of the three armored brigades needed. However, in the near term, it is unlikely that any one of these nations would be able to sustain a deployed armored brigade. Therefore, we assume that the U.S. would need to deploy two more armored brigades and a fires brigade in addition to the forward stationed forces already in Europe and the armored and aviation brigades already deployed in a “heel to toe” fashion. In total, 36,000 additional soldiers would be needed over and above those already forward stationed or rotationally deployed to Europe.

When deployed at a 1:2 rotation ratio, keeping 36,000 soldiers on the ground in the Baltics requires 108,000 soldiers to maintain a continuous presence. Including the 283,000 soldiers forward deployed in or rotating to Europe and other theaters, and the 151,000 soldiers engaged in infrastructure activities, a total of 542,000 soldiers would be required for these activities alone. This number exceeds the 476,000 soldiers now planned for the regular Army, forcing the DoD to reduce day-to-day operations, continuously deploy 66,000 National Guard or Army Reserve soldiers, grow the regular Army, or take some combination of these measures. Worse, this leaves no margin for higher demands if deterrence fails and war breaks out in Europe, Korea, or elsewhere in the world.



### Assume rotations can be ended in wartime

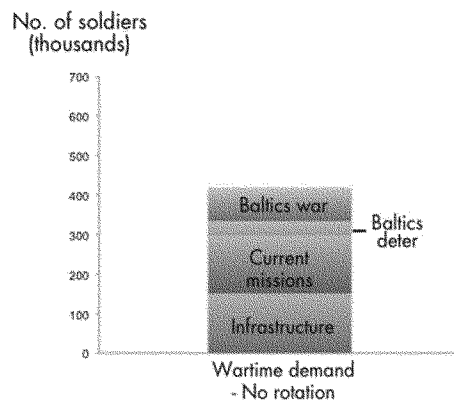


In wartime, therefore, the DoD might be compelled to suspend troop rotations to maintain sufficient numbers of forces to meet contingency needs. From this point on in this testimony, we will discuss wartime demand, with troops deployed without rotation for the duration of a conflict. Such extended deployments for the duration of the conflict will impose extraordinary strain on troops and their families. (We should also note that some troop rotation will still be needed within theaters, so battle-worn units can pull back from the line for rest, refit, and replacement of casualties).

If troop rotations to all theaters are suspended, including the deterrent force in the Baltics, troop demands will decline somewhat. The additional demand in the Baltics would decline to the 36,000 soldiers deployed at any one time; demand for the combination of other theaters would decline to 146,000, while the demand for infrastructure forces would remain steady at 151,000 soldiers. The total troops needed for these missions would decline to 334,000 soldiers when on a wartime footing.



## Forces needed to win in Baltics

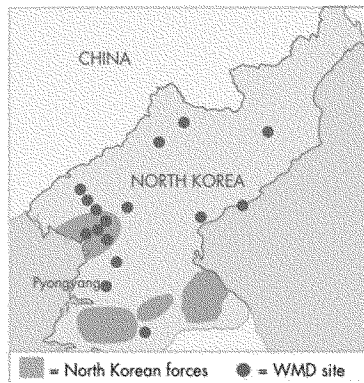


Additional troops would be needed if the Russians were not deterred and decided to invade. To expel the invading Russian forces, we estimate that an additional 85,000 U.S. troops, including six armored brigades and associated artillery, aviation, headquarters, and other supporting troops, would be needed to defeat a Russian invasion (shown in brown), along with eight brigades and a similar number of troops from our NATO allies.

This raises the total U.S. troops needed to around 420,000 soldiers. This includes soldiers tasked to conduct infrastructure missions, continue current missions around the world, and deploy the U.S. contribution to the NATO deterrent and war-winning forces shown above. Once again, this assumes a wartime footing for all of these troops with no rotations of soldiers.



## Potential regret: loose nuclear weapons



- Current planning focused upon invasion threat to South Korea
- Threat changing
  - Provocation could lead to artillery barrage
  - Collapse leaves many nuclear facilities unsecured
- Both missions require significant U.S. ground forces to
  - President will need ready options

We now turn to a third example—a war resulting from a provocation cycle that escalates to a North Korean attack on South Korea.

Current DoD force planning seems to focus on an invasion threat to South Korea from North Korean forces, as depicted on the map. But the threat is changing. A provocation cycle could escalate out of control and lead to an artillery barrage of Seoul, involving some of the 10,000 artillery pieces and multiple rocket launchers, firing from hardened positions that the DoD believes to be in range of South Korea.<sup>10</sup> Or North Korea might collapse as a result of war or economic failure, leaving up to 200 nuclear, chemical, and biological program sites unsecured (as represented by dots on the map above).<sup>11</sup>

In either event, a significant burden would fall on U.S. forces. To counter North Korean artillery, U.S. ground forces would need to provide forces to evacuate U.S. noncombatants; engineering, logistics, and maneuver units to sustain South Korean and U.S. operations to clear artillery within range of Seoul; WMD-elimination task forces to secure chemical or nuclear munitions deployed with artillery units; and ground combat forces to protect each of these types of units.

<sup>10</sup> Office of the Secretary of Defense, “2000 Report to Congress: Military Situation on the Korean Peninsula,” Washington, D.C., September 12, 2000; General Curtis M. Scaparrotti, Commander, United Nations Command; Commander, United States-Republic of Korea Combined Forces Command; and Commander, United States Forces Korea, statement before the Senate Armed Services Committee, February 23, 2016.

<sup>11</sup> The estimate of 200 sites was given by a former Republic of Korea Minister of Defense as reported by Bruce W. Bennett, *Preparing for the Possibility of a North Korean Collapse*, Santa Monica, Calif.: RAND Corporation, RR-331-SRF, 2013.

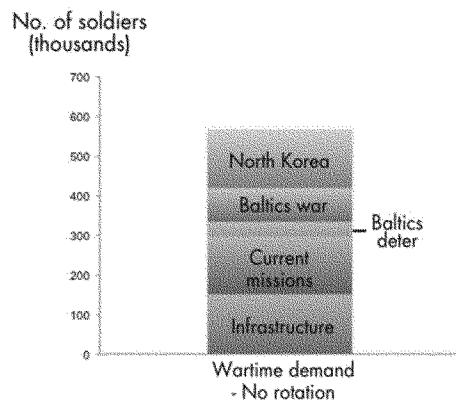


South Korean forces would also be stretched to gain control over North Korean military forces, exert political control over territory captured, and deal with a massive humanitarian catastrophe—all at a time when the South Korean Army is decreasing in size by one-third from its peak.

For these reasons, countering an artillery barrage or North Korean WMDs would require significant U.S. ground forces.



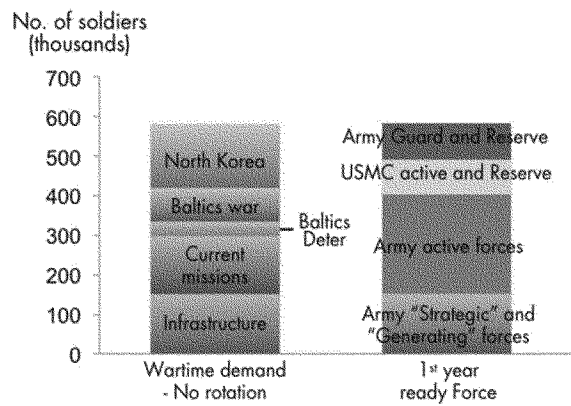
## Countering North Korean provocation or collapse



We estimate that 162,000 soldiers (shown in green in the figure above) over and above the troops already deployed or forward stationed in South Korea would be needed for either the counterartillery or counter-WMD missions. Those numbers are added to the forces already shown as needed for infrastructure, current missions, and to deter or defeat aggression in the Baltics. In total, the number of U.S. soldiers needed, including operations in Korea, would be about 570,000 soldiers.



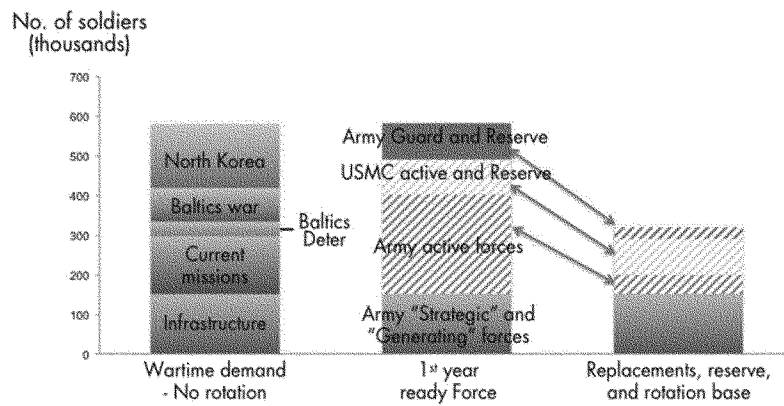
### Total U.S. Army and Marine Corps needed for mission



Turning from the demand side to the supply side, how could the United States meet the demand required to fulfill the three missions discussed here? This level of demand could be met if the United States could deploy over 80 percent of the planned regular Army and Marine Corps operating forces and progressively mobilized an increment of 25 percent of the Army National Guard, Army Reserve, and Marine Corps Reserve each year, as shown in the figure above.



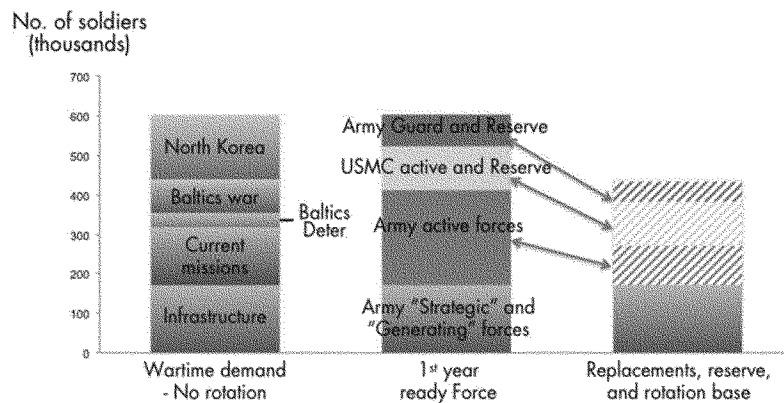
## But force and readiness may not be sustainable



But utilizing such a large fraction of the regular Army and Marine Corps would leave very few soldiers or marines available to sustain that deployed force. Sustaining that force in combat will require replacements for casualties and other force “frictions,” a reserve in case the conflicts are harder than expected or new crises emerge, and some in-theater rotation base for units to rest and refit if wars are longer than a single year. Taken together, sustaining that force for an extended period of time will probably not be possible with an Army active component of 475,000 soldiers, a National Guard of 343,000 soldiers, and an Army Reserve of 199,000 soldiers.



## Reversing drawdown would provide needed depth



We estimate that the nation could have sufficient ground forces to conduct operations during the first year of the described conflicts and some depth to provide replacements, a reserve, and some ability to rotate some soldiers out of combat *if* the United States takes several measures.

First, reversing a portion of the recent drawdown could provide the soldiers needed to sustain contingency requirements. We estimate that returning the regular Army end strength to 540,000 soldiers, while increasing the National Guard and Army Reserve to 360,000 soldiers and 300,000 soldiers respectively, could provide the soldiers and unit types needed to reduce the gaps in our ability to maintain contingency force deployments.<sup>12</sup> In the example above, the regular Marine Corps is also increased to 200,000 troops.

Second, the United States could plan for full mobilization of the reserve components and attempt to speed up their deployment—above the 25-percent increment we assumed would be mobilized the first year and every year thereafter, as shown in the example above.

Third, the United States could either end other ground force deployments, or shift some of them—like CONUS supporting forces and Guantanamo Bay deployments—to the Navy and Air Force. However, withdrawing from these missions would be difficult in practice and may place important security and stability gains at risk.

Please note that this and the prior example assume that the Marine Corps devotes essentially its entire operating strength to these ground missions and suspends other deployments, such as the Marine Expeditionary Unit and special Marine Air-Ground Task Force missions.

<sup>12</sup> In our analysis, we particularly emphasized filling holes in the Combat Support and Combat Service Support forces. Many of the units and capabilities most in need of increased capacity are currently in the U.S. Army Reserve.



## Planned Army too small to meet commitments ... Leaving two choices:

### Limit Response – Choose one fight to win

- If fully engaged in Korea, Army cannot successfully defend Baltics
- If fully engaged in Baltics, Army cannot stop artillery barrage or secure loose nukes in Korea
- Opportunistic aggression may become more likely

### Limit Regret – Retain forces needed for both

- Pause drawdown until new threats fully addressed
- Increase Active and Reserve readiness – test on regular basis
- Improve defense posture in Baltics and Korea
- Force would be stressed, but would have capacity/some staying power

In summary, the planned Army is too small to meet the current U.S. commitments. This leaves the nation with two choices. The first choice is to **limit response**. The United States could decide to win just one of the fights if they were to take place—losing the ability to “hold” an opponent’s progression in other conflicts. For example, if the nation puts its war-winning force in South Korea, it could not keep the Russians from overrunning the Baltics. Conversely, if U.S. forces fully engage in the Baltics, they could not stop a North Korean artillery barrage or secure loose nukes after a North Korean collapse. Such limitations could raise chances that an adversary might take advantage of an opportunity to commit aggression and may also cause U.S. allies to rethink the credibility of U.S. commitments and whether to rely on U.S. conventional and nuclear deterrent forces.

The second choice is to **limit regret**. To do so, the United States could reverse recent troop drawdown until new threats are fully addressed. This higher force strength could be drawn down again when, for example, the Russians withdraw from Ukraine, return captured territory, and take other measures to demonstrate that they will respect international boundaries.

In either choice, to be ready to win in the Baltics, the U.S. Army should improve its ground force capabilities in the following ways: (1) increase the readiness of active and reserve forces and test their readiness on a regular basis, (2) pre-position more equipment in both the Baltics and Korea to speed force deployments and (3) restore a “matching capability,” as my colleague Dave Shlapak has testified.<sup>13</sup> The United States needs to restore its ability to at least match large and capable adversaries (overmatch would be better still, and should be a goal that we continue

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<sup>13</sup> David A. Shlapak, *What it Takes to Win: Deterring Russian Aggression in the Baltic States*, Santa Monica, Calif.: RAND Corporation, CT-467, 2017.



to seek). Today, the U.S. Army would be outgunned, outranged, and outmanned in a fight against the Russians in the Baltics. The Army will need to rebuild its maneuverable short-range air defenses, improve the survivability and lethality of its combat vehicles (with active protection systems and modern antitank guided missiles), and extend the range of its cannon and rocket artillery to match the Russians.

Thank you for your time. I am happy to take your questions.





OBJECTIVE ANALYSIS. EFFECTIVE SOLUTIONS.



## **Timothy M. Bonds**

**Vice President, RAND Army Research Division; Director,  
RAND Arroyo Center**

Santa Monica Office

### **Education**

M.B.A. in business administration, Washington University in St. Louis; M.S. in aero/astro engineering, University of Illinois; B.S. in aero/astro engineering, University of Michigan

Timothy M. Bonds is vice president, Army Research Division, and director, RAND Arroyo Center.

Bonds has served as a RAND vice president since 2011. Previously, he was deputy director of the Arroyo Center from 2003 to 2011, acting director from March 2009 to May 2010, and, from 1999 to 2003, director of the Aerospace Force Development Program within RAND Project AIR FORCE.

A member of the RAND staff for over 20 years, Bonds has led a variety of studies for the Arroyo Center, Project AIR FORCE, and the National Defense Research Institute. Areas of emphasis include ground force capabilities needed to meet national commitments; the deployment of Army-provided forces in recent wars and contingencies; and the US Army capacity required to meet current and future demand. Past analyses include evaluating C2 (command and control) capabilities, personnel mission-day metrics, and the military employment of commercial space systems and services. Bonds has served as a member of the Air Force Scientific Advisory Board, and as a consultant to the Army Science Board.

Among his most recent publications are *Limiting Regret: Building the Army We Will Need*, *Strategy-Policy Mismatch - How the US Army Can Help Close Gaps in Countering Weapons of Mass Destruction*, and *Army Deployments to OIF and OEF*.

Prior to joining RAND, Bonds spent nine years in the aerospace industry, where he led projects to develop high-speed vehicle and weapons concepts. He holds an M.S. in aero/astro engineering from the University of Illinois and an M.B.A. from Washington University, St. Louis.



### Federal Contract or Grant Information

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### Foreign Government Contract or Payment Information

#### FY2017

Foreign Contract/Payment	Foreign Government	Dollar Value	Subject of contract or payment
Contract	South Korea	\$90,000	Research
Contract	Japan	\$195,351	Research

#### FY2016

Foreign Contract/Payment	Foreign Government	Dollar Value	Subject of contract or payment
Contract	Commonwealth of Australia	\$1,521,072	Research
Contract	Jinan Water Resources Bureau – Peoples Republic of China	\$355,652	Research
Contract	Japan	\$207,700	Research
Contract	South Korea	\$249,040	Research
Contract	United Arab Emirates	\$3,155,000	Research
Contract	Kurdistan Regional	\$2,714,789	Research



	Government		
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**FY15**

Foreign Contract/Payment	Foreign Government	Dollar Value	Subject of contract or payment
Contract	Commonwealth of Australia	\$9,104,636	Research
Contract	Canada	\$17,624	Research
Contract	Japan	\$207,700	Research
Contract	South Korea	\$100,000	Research





**Statement before the  
House Armed Services  
Subcommittee on Tactical Air and Land Forces**

***“U.S. Ground Force Capability and  
Modernization Challenges in Eastern Europe”***

A Testimony by:

**Andrew Hunter**

Director, Defense-Industrial Initiatives Group and

Senior Fellow, International Security Program  
Center for Strategic and International Studies (CSIS)

**March 1, 2017**

**2118 Rayburn House Office Building**



Mr. Chairman, thank you for inviting me here today to discuss the tactical, operational, and strategic challenges faced by U.S. ground forces in responding to Russian aggression in Europe. I'd like to divide my testimony into three parts for the purposes of today's hearing. First, I will briefly address the security environment in Europe and the particular stresses it places on the United States Army. Second, I'll discuss how the Army's modernization program is postured to address these challenges. Third, I'll talk a little about NATO and how the Army's modernization approach can support the institutional security framework in Europe.

I would like to emphasize that the views presented are my own. While they are informed by the work I do at the Center for Strategic and International Studies (CSIS), they are not positions attributable to CSIS as an organization. CSIS does not take or advocate for specific positions on public policy issues. For purposes of disclosure, I will also make you aware of two projects in which I have been involved at CSIS that bear directly on my testimony today. First, CSIS did a study on Evaluating U.S. Army Force Posture in Europe, performed in two phases in 2016. This study examined options for U.S. Army force posture in Europe, and was sponsored by U.S. Army Europe. Second, my own Defense-Industrial Initiatives Group at CSIS is currently in the final stages of a project looking at the Army's modernization strategy.<sup>1</sup> This project is examining the Army's current modernization dilemma in the context of its historical funding for modernization, current challenges to the Army's ability to achieve overmatch, and options for addressing these challenges. Our Army modernization project was made possible by support from General Dynamics, DRS Technologies, and L-3 Technologies.

A potential future conflict on NATO's eastern flank presents one of, if not the most, stressing scenarios for U.S. ground forces. The close proximity of NATO's eastern-most members to Russia combined with the explicit steps Russia has taken to develop and deploy systems designed to undermine or match U.S. warfighting advantages makes the threat in this region especially potent. In my view, three main features of the challenge presented by Russia are central. Russia has an Anti-Access/Area Denial (A2/AD) capability along its border with NATO that presents a sophisticated, layered, redundant, multi-domain capability to hinder the U.S. ability to project power in Europe. Through a combination of highly capable, layered integrated air defense systems and offensive ballistic and cruise missile capabilities, Russia presents strategic, operational, and tactical challenges to U.S. ground forces. This A2/AD capability challenges the strategic mobility of U.S. forces in Europe, complicates U.S. operations by holding lines of supply and communications at risk, and imposes tactical limits on U.S. forces by inhibiting the ability of U.S. ground forces to receive support from U.S. air and naval forces that is usually taken for granted.

Russia has also invested significantly in ground combat systems, narrowing the U.S. advantage in combat vehicles by procuring modernized tanks and other vehicles while gaining an outright advantage in terms of indirect fires such as artillery and rocket systems. The advanced capability provided by these systems, when combined with the advantage of shorter, internal Russian lines of communication in Eastern Europe, presents a significant operational and tactical challenge to U.S. ground forces. In addition, Russian non-kinetic capabilities, particularly in electronic warfare, cyber operations, and information operations, significantly out-pace the limited

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<sup>1</sup> CSIS's report on this project is forthcoming in spring 2017 and is entitled "The Army Modernization Imperative: A New Big Five for the Twenty-First Century"



capabilities the United States Army can currently bring to a potential conflict. These non-kinetic capabilities potentially undermine the effectiveness of U.S. intelligence and anti-armor systems and threaten the ability of the U.S. and its NATO allies to operate effectively as a coalition. While the capabilities Russia has on NATO's eastern flank present a particularly stressing set of circumstances, it is worth noting that the willing of Russia to export many of these advanced systems to other potential U.S. adversaries means that these systems are likely to challenge U.S. ground forces in a variety of locations around the globe where they may be married with other challenges.

The challenges presented by Russia on NATO's eastern flank carry clear implications for U.S. Army modernization. U.S. ground forces need more robust short range air defense capabilities and increasingly advanced ballistic and cruise missile defense capabilities. Advanced precision munitions capabilities must be proliferated throughout the ground forces and adapted across the full range of direct and indirect fires. The Army needs to invest in more numerous and more capable long-range precision fires, replacing and extending the capability currently provided by ATACMS, and larger numbers of fire and forget anti-tank guided missiles. The Army must quickly enter the fray in electronic warfare (EW) and cyber operations, both to counter the wide variety of Russian EW systems and ensure the effectiveness of U.S. intelligence, surveillance, and reconnaissance (ISR) and networking capabilities. In addition, our NATO allies must invest significantly in missile defense and secure communications capabilities as well as generally increasing investment in their forces. This is only a sampling of the modernization implications of the challenge to U.S. forces on NATO's eastern flank, but it is intended to convey one clear message: there is a need for significant efforts to modernize U.S. ground force capabilities in the near and medium term.

I will turn now to the Army's broader modernization dilemma, a situation that CSIS has termed the "triple whammy." The Army's triple whammy is a combination of three trends which combine to seriously compromise the Army's ability to react to the challenges discussed above. Two aspects of the triple whammy are highlighted in the following table:

*Table 1: Comparison of Army Modernization Drawdowns*

	Procurement	RDT&E	Total Army Modernization
Drawdown 1: 1969 – 1975	-74%	-29%	-64%
Drawdown 2: 1985 – 1998	-70%	-17%	-59%
Drawdown 3: 2008 – 2015	-78%	-52%	-74%

Source: Rhys McCormick, *The Army Modernization Challenge: A Historical Perspective*

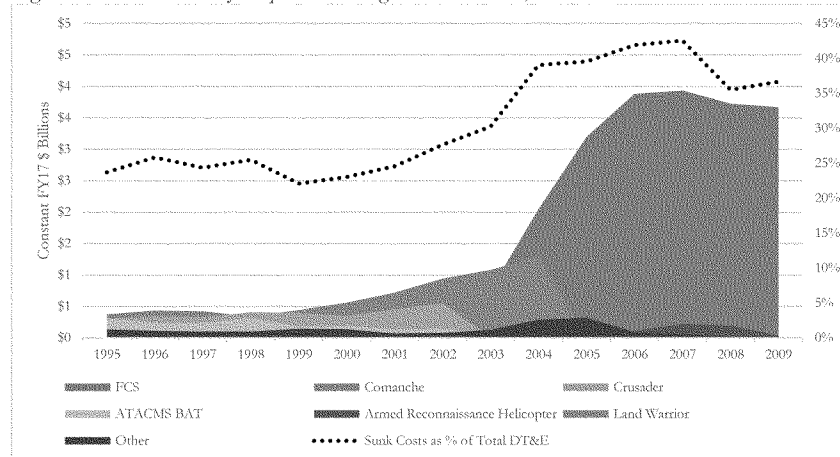
First, the Army is near the bottom of a historically severe budget drawdown. Army modernization funding declined 74% from 2008-2015 as a result of the drawdown from two wars and the imposition of the Budget Control Act caps. The magnitude of this drawdown exceeds the drawdown the Army experienced after the end of Vietnam and the drawdown after the end of the Cold War. The second aspect of the triple whammy is the unprecedented decline in Army



research and development (R&D) funding. While the recent drawdown in Army procurement funding is roughly in line with those of previous drawdowns, the drawdown in R&D funding is roughly twice as large as previous declines. While R&D funding had been relatively preserved in previous drawdowns, it was a target this time, falling over 50%. This decline is concentrated in the later stages of R&D, at the prototyping and system design and development stages, the immediate precursors to fielding new capabilities. I describe this phenomenon as a 7-year trough in the pipeline for developing new Army systems.

Lastly, the current drawdown is occurring after a relatively ineffective modernization cycle for the Army. The failure of a range of Army modernization programs such as Future Combat System, Comanche, and Crusader in the last modernization cycle and the focus on procuring less-enduring systems like MRAPs meant that the last modernization cycle did much less to modernize the Army than the “Big 5” acquisition cycle of the 1980s. Unlike the Cold War drawdown, the Army has experienced this drawdown without the advantage of having recently fielded large, modernized fleets of equipment in the buildup. And as a result of the unprecedented decline in R&D funding, it enters the current modernization cycle without the same foundation of systems in the pipeline that are ready to procure. The impact of this lost modernization cycle can be partially illustrated with data from the Army’s Decker-Wagner report:

Figure 1: Cancelled Army Acquisition Program Sunk Costs, 1995-2009



Source: Army Strong: *Equipped, Trained, and Ready* - Final Report of the 2010 Army Acquisition Review

The triple whammy leaves the U.S. Army’s modernization program particularly ill-equipped to deal with the security challenges on NATO’s eastern flank. The severity of the drawdown lead to a process where every portfolio in the Army’s modernization program was cut back to, or below,



minimum sustaining rates. As a result, whether it's the Army's stated priorities, the President's Budget for Fiscal Year 2017 Program Objective Memorandum (FY17 POM), or anecdotal evidence from interviews carried out by CSIS as part of our Army modernization study, there is a lack of consensus and understanding of the Army's top modernization priorities across the broader defense enterprise. And under current modernization plans, there is little budget relief on the way. Over the course of the Future Years Defense Program (FYDP), planned Army modernization funding in the FY17 POM remains just above the existing levels. Even if the Army could afford new platforms, the Army has limited options. At the moment, the Army does not have a surfeit of internally-developed capabilities in the pipeline that can be quickly fielded. The current Army modernization strategy essentially is: accept increased risk, halt new platform development, improve and/or sustain the existing inventory, and divest select platforms.

Now, that the drawdown is over and the defense budget is poised to begin to grow, the Army's modernization strategy must be reoriented to address new challenges including those that are the topics of today's hearing. The FY17 POM projects Army modernization funding that is approximately \$7 billion below its historical average and about \$9 billion below the average modernization funding level during periods of increasing budgets. It is hard to escape the conclusion that the Army will need substantially increased levels of modernization funding if it hopes to field significant new capabilities in the coming years. However, as previously discussed, there is a significant near to mid-term need to field new ground force capabilities. As a result, even assuming significant new funding is added to the Army's modernization budget, the Army will have to be extremely disciplined in ensuring that this funding is focused on the key capabilities required to address emerging threats such as the challenge on NATO's eastern flank. Given the likelihood that the Army's force structure will be expanded beyond what is envisioned in the FY17 POM, a certain level of modernization funding increase will be required just to equip new force structure with today's capabilities. Unless the Army grows force structure smartly, and equips its forces to address its shortfalls, even increased modernization funding may not necessarily result in increased capability.

In my view, the goal of delivering the Army the key capabilities it needs is best accomplished by adopting an Army modernization strategy that focuses on adding capabilities to the Army's large force of fielded systems across 5 major capability areas including: air and missile defense, advanced protection, electronic warfare, cross-domain fires, and logistics. These capabilities will require, and can further leverage, the Army's substantial investment made in the last two decades in networking and situational awareness. The Army can obtain the fastest, most pervasive improvement in its force by progressively fielding these improvements in regular, sizeable increments. In addition, the Army's modernization strategy should explicitly set aside room in the POM for quickly developing, prototyping, and deploying capabilities in response to emerging threats and opportunities, as the Army has done, with this committee's help, with the upgunned Stryker. Because the Army's technology pipeline currently has serious gaps, some of these capabilities may need to leverage developments undertaken by partner and allied nations who have made focused investments in key ground force capabilities. Although this modernization strategy would not rule out some limited investment in efforts to develop new platforms, as many of the Army's platforms will eventually need to be replaced, such investments should be undertaken only to the extent that they do not undermine the strategy's central approach.



The topic of today's hearing, the challenge on NATO's eastern flank, highlights a few important points about the institutional framework in Europe. There is no doubt that our allies and partners in Europe have underinvested in their security needs, and have done this for some time. Likewise, they followed the U.S. lead in putting what they were investing in recent years into counterinsurgency and counterterrorism capabilities that may not provide the capability required for operations to directly defend NATO members. However, the current focus on getting our European partners to increase the share of their GDP devoted to defense spending, while worthwhile, runs the risk of incentivizing a suboptimal response. Any increase in defense spending, for example increased contributions to military pensions, can help a nation raise its defense spending as a proportion of GDP, but not every spending increase will allow our NATO partners to better interoperate with us in addressing challenges in Europe. It is far more important that our NATO allies join the U.S. Army in investing in the capabilities to address the challenge on NATO's eastern flank than it is that they hit a particular spending target. And, in fact, as previously mentioned, many of our NATO allies have invested in critical ground force capabilities such as precision, high volume indirect fires, short range air defenses, and electronic warfare that can be extremely valuable in the coming years. The U.S. Army can leverage these capabilities, whether they are deployed as part of a NATO or coalition force, and/or through incorporation into Army systems. The focus of activity at U.S. European Command must shift in this direction as well. Just as the U.S. Army needs a focused modernization strategy, the United States needs a focused, cooperative modernization approach with its NATO allies and other partners. Ideally, this approach would also be coupled with a broader national-level security cooperation strategy that complements and enables interoperability and modernization, resulting in a significantly more capable NATO alliance.

The situation on NATO's eastern flank is concerning. More concerning is that it is potentially a harbinger of similar or even more serious challenges to U.S. security interests still to come. However, the good news is that there are real, practical measures that can be taken to address these threats. I recommend that this committee engage closely with the U.S. Army in its oversight and in its review of upcoming budget requests to ensure that a focused, well prioritized Army modernization strategy is adopted that allows the Army to meet current and emerging challenges.



**Andrew Philip Hunter**  
**Director, Defense-Industrial Initiatives Group and**  
**Senior Fellow, International Security Program**  
**Center for Strategic and International Studies**

Andrew Hunter is a senior fellow in the International Security Program and director of the Defense-Industrial Initiatives Group at CSIS. He focuses on issues affecting the industrial base, including emerging technologies, sequestration, acquisition policy, and industrial policy. From 2011 to November 2014, Mr. Hunter served as a senior executive in the Department of Defense (DOD). Appointed as director of the Joint Rapid Acquisition Cell in 2013, his duties included fielding solutions to urgent operational needs and leading the work of the Warfighter Senior Integration Group to ensure timely action on critical issues of warfighter support. From 2011 to 2012, he served as chief of staff to Ashton B. Carter and Frank Kendall, while each was serving as under secretary of defense for acquisition, technology, and logistics. Additional duties while at DOD include providing support to the Deputy's Management Action Group and leading a team examining ways to reshape acquisition statutes.

From 2005 to 2011, Mr. Hunter served as a professional staff member of the House Armed Services Committee, leading the committee's policy staff and managing a portfolio focused on acquisition policy, the defense industrial base, technology transfers, and export controls. From 1994 to 2005, he served in a variety of staff positions in the House of Representatives, including as appropriations associate for Representative Norman D. Dicks, as military legislative assistant and legislative director for Representative John M. Spratt Jr., and as a staff member for the Select Committee on U.S. National Security and Military/Commercial Concerns with the People's Republic of China. Mr. Hunter holds an M.A. degree in applied economics from the Johns Hopkins University and a B.A. degree in social studies from Harvard University.



**DISCLOSURE FORM FOR WITNESSES  
COMMITTEE ON ARMED SERVICES  
U.S. HOUSE OF REPRESENTATIVES**

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**Witness name:** Andrew Hunter

**Capacity in which appearing:** (check one)

☐ Individual

☒ Representative

**If appearing in a representative capacity, name of the company, association or other entity being represented:** CSIS

**Federal Contract or Grant Information:** If you or the entity you represent before the Committee on Armed Services has contracts (including subcontracts) or grants (including subgrants) with the federal government, please provide the following information:

**2017**

Federal grant/ contract	Federal agency	Dollar value	Subject of contract or grant
N/A			



**2016**

Federal grant/ contract	Federal agency	Dollar value	Subject of contract or grant
grant	Naval Postgraduate School	\$119,000	Impact of Sequester on Defense Industrial Base
grant	Naval Postgraduate School	\$119,000	OCO Contracts after Iraq
grant	Naval Postgraduate School	\$119,000	Incentives in Performance-based Logistics Contracting

**2015**

Federal grant/ contract	Federal agency	Dollar value	Subject of contract or grant
grant	USAREUR	\$247,000	US Army Force Posture in Eastern Europe
grant	Naval Postgraduate School	\$119,000	Federal R&D Contract Trends
grant	Naval Postgraduate School	\$119,000	International Joint Development

**Foreign Government Contract or Payment Information:** If you or the entity you represent before the Committee on Armed Services has contracts or payments originating from a foreign government, please provide the following information:

**2017**

Foreign contract/ payment	Foreign government	Dollar value	Subject of contract or payment
N/A			



2016

Foreign contract/ payment	Foreign government	Dollar value	Subject of contract or payment
N/A			

2015

Foreign contract/ payment	Foreign government	Dollar value	Subject of contract or payment
N/A			







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**QUESTIONS SUBMITTED BY MEMBERS POST HEARING**

MARCH 1, 2017

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### QUESTIONS SUBMITTED BY MR. LANGEVIN

Mr. LANGEVIN. These wargaming projections indicate NATO's current structure would fail to repel a Russian force invasion of its bordering Baltic neighbors. I greatly appreciate the various recommendations that were made as a result of this wargaming, and I would like to hear your thoughts on how we can best supplement any immediate gaps in force structure with advanced technologies, such as unmanned aerial vehicles (UAVs), electronic warfare, or cyber tactics, for example. Do you see viable opportunities there to tip the balance in our favor?

Mr. SHLAPAK and Mr. BONDS. Advanced technologies, such as UAVs, electronic warfare, and cyber tactics, cannot by themselves "tip the balance in our favor" or serve as a substitute for capable ground forces to prevent a rapid Russian fait accompli in the Baltics. But Army modernization is necessary to counter Russian advantages in air defense, long-range fires, attack aviation, antitank munitions, and cyber-electromagnetic capabilities, so that ground forces can successfully fight outnumbered and win with reduced casualties.

There is not enough time and space for stand-off strikes in support of a limited ground force to succeed in preventing a rapid fait accompli. It is only 135 miles from Pskov to Riga. Moving tactically at 5 miles per hour, the Russians can still overrun Baltic defense forces and isolate their capitals in less than 60 hours. Russian air defenses and fighters, available bases, realistic sortie rates, and legacy munitions reduce the effectiveness of NATO airpower in the opening weeks of a conflict.

Third offset technologies will likely not solve this fundamental time-distance problem, although some could enable a joint force to execute a more realistic "multi-domain battle" concept. The Army modernization priorities necessary to close critical capability gaps, retain freedom of action in contested environments, and succeed in close combat include:

1. **fires:** improve target acquisition sensors and the range, volume, and area effects of Army fires to destroy mobile radars, missile launchers, armored forces, and command posts

2. **protection:** improve mobile, light-armored short-range air defense to defeat enemy fighters, attack helicopters, and unmanned aerial systems so ground forces can move to and win the close fight

3. **maneuver:** improve M1/M2 armored protection, aircraft survivability (radar surface-to-air warning), and lethality (extended-range Hellfire), as well as dismounted firepower (better, faster Javelin) to destroy enemy forces in close combat

4. **command:** improve C4ISR system integration, resilience, and interoperability with allies; assured precision navigation and timing; and offensive and defensive cyber-electromagnetic warfare capabilities to exercise effective mission command

5. **mobility:** improve the weight capability of armored vehicle-launched bridges to support a rapid counterattack in Baltic terrain with multiple rivers.

Mr. LANGEVIN. It is no secret that over the past decade, the Russian government has conducted increasingly frequent and egregious cyberattacks against NATO countries. As such, cyber defense has become an integral part of NATO's fundamental mission of collective defense. Do you believe NATO is at a maturity level to effectively incorporate cyber technologies into strategies or doctrine to exploit Russian critical infrastructure? And how can we better leverage U.S. resources to broaden NATO cybersecurity capacity, take preventative measures and enhance information sharing?

Mr. SHLAPAK and Mr. BONDS. Though RAND has extensive analytic capability in cyberwarfare, RAND has not yet been asked to assess NATO's ability to effectively incorporate cyber technologies into strategies or doctrine to exploit Russian critical infrastructure. However, we can offer some broad observations. Progress on cybersecurity, as articulated in NATO's Cyber Defence Policy, includes the following.

- At the 2016 NATO Summit in Warsaw, the allies "recognized cyberspace as an operational domain in which NATO must defend itself as effectively as it does in the air, on land and at sea."
- The allies made a "Cyber Defence Pledge" to prioritize their cyber defense capabilities and protect their national networks.



- The allies committed to mutual assistance in preventing, mitigating, and recovering from cyber attacks and conducting cyber education, training, and exercises.

However, significant challenges remain before NATO has an effective offensive cyber capability.

- Some NATO member states are developing their own offensive cyber capabilities, but these remain national capabilities under national control.
- It is unclear how and under what circumstances member states would choose to make their cyber capabilities available to the NATO alliance and NATO commands.

The U.S. is positioned to lead NATO to achieve cyber goals.

- NATO should develop the ability to plan, coordinate, command, and control the offensive cyber capabilities of member states. This is still nascent within NATO.

Given that NATO planning, as well as command and control mechanisms, generally mirror those developed by the United States, we expect that Department of Defense (DOD) mechanisms will serve as a template for NATO.

Mr. LANGEVIN. These wargaming projections indicate NATO's current structure would fail to repel a Russian force invasion of its bordering Baltic neighbors. I greatly appreciate the various recommendations that were made as a result of this wargaming, and I would like to hear your thoughts on how we can best supplement any immediate gaps in force structure with advanced technologies, such as unmanned aerial vehicles (UAVs), electronic warfare, or cyber tactics, for example. Do you see viable opportunities there to tip the balance in our favor?

Mr. HUNTER. Advanced technologies such as UAVs and EW can serve as important force multipliers that improve the effectiveness of current U.S.-European force posture but are by themselves insufficient in tipping the balance. Though these investments would improve the capability of NATO's current force structure, they would not solve the fundamental imbalance of forces. As structured in the wargame, the limited number of NATO forces stationed in the Baltics cannot deter a Russian invasion, as they do not pose a credible threat of failure to Russian leadership. Going against a quantitatively superior Russian force, the NATO defenders would be quickly overwhelmed. Incorporating advanced technologies can slow down the Russian invasion envisioned in the wargame results but must be supplemented by an increased flow of additional allied forces into the Baltic states. In turn, this would increase the time, cost, and complexity of a Russian invasion and reduce or eliminate the perceived advantage Russia might gain from such an operation. This requires a combination of increased allied forces that are in or realistically transportable to the Baltics and the advanced ability of these forces to address evolving Russian threats.

Although advanced technologies alone cannot tip the balance, that does not lessen the importance of investing in these technologies. These technologies should be incorporated with force structure increases to tip the European deterrence balance. The historical example of the Second Offset Strategy demonstrates the success of such an approach. The technologies developed during the Second Offset Strategy—precision-guided munitions, stealth, communication, command, control and intelligence (C3I)—permitted the U.S. to deter Soviet aggression without the need for massive, unsupportable European force structure requirements. Today, advanced technologies offer the same potential to supplement smaller allied force sizes as one element of a broader plan to restructure U.S. and NATO force structure to sustain a credible conventional deterrence posture.

Mr. LANGEVIN. It is no secret that over the past decade, the Russian government has conducted increasingly frequent and egregious cyberattacks against NATO countries. As such, cyber defense has become an integral part of NATO's fundamental mission of collective defense. Do you believe NATO is at a maturity level to effectively incorporate cyber technologies into strategies or doctrine to exploit Russian critical infrastructure? And how can we better leverage U.S. resources to broaden NATO cybersecurity capacity, take preventative measures and enhance information sharing?

Mr. HUNTER. It is my belief that, collectively, NATO is not yet at a maturity level sufficient to effectively incorporate cyber technologies that exploit critical Russian infrastructure. In this area, the technology available is fairly advanced, but the concept of operations and doctrine for its use is extremely underdeveloped. This is true here in the United States and even more so at the NATO alliance level. Classification of the technology involved is a significant barrier to developing an integrated alliance approach.

The challenges NATO faces in broadening its cyber security capacity mirror the difficulties the U.S. military faces today in improving cyber security. First, the United States and NATO need to better leverage the cybersecurity expertise found



in the private sector. In the United States, this entails finding ways to recruit and retain cyber experts outside of the traditional military career structure and was a top focus of Secretary Carter's Force of the Future Initiative. NATO countries will similarly need to find ways to ensure that their militaries leverage and enable those with the requisite cyber skills to join the military. Additionally, the U.S. and NATO need to further a common understanding of the cyber field. NATO's July 2016 recognition of cyberspace as a domain of operations was a good start, but further work is needed in reaching a common understanding of what cyber entails and best practices for preventative measuring and enhancing information sharing.

#### QUESTIONS SUBMITTED BY MS. ROSEN

Ms. ROSEN. This war game was designed to help assess the viability of NATO's current posture, and in turn U.S. conventional military posture in Europe. How has U.S. military posture in Europe improved since the release of RAND's wargame report? In your opinion, are we doing enough to maintain a credible deterrence posture?

Mr. SHLAPAK and Mr. BONDS. The increase in the U.S. European Reassurance Initiative and the matching contributions by NATO allies are important first steps that signal alliance cohesion and commitment to the Baltic states. Yet they remain insufficient to prevent a rapid Russian fait accompli, which arguably should be the standard for credible deterrence given the enormous costs and risks of miscalculation, war, and escalation with Russia.

The increase in the U.S. European Reassurance Initiative provided for one rotational armored brigade, which is being spread across Eastern Europe from the Baltics to Bulgaria. There are U.S. plans to establish a prepositioned equipment set for a second armored brigade, although it would not be possible to draw equipment and fight on seven to ten days' warning. The Europeans are providing three battalion-size battlegroups in each of the Baltic States led by Britain, Canada, and Germany. RAND war games have shown these forces remain insufficient to prevent a rapid Russian fait accompli if deterrence fails.

The problem with relying on a tripwire is that Putin may doubt NATO's will to follow through with a delayed counteroffensive to liberate the Baltic states. A counteroffensive would be expensive, requiring six months to generate nine times more force to attack at a 3:1 ratio than to defend at a 1:3 ratio. NATO would likely suffer more casualties in the first week of combat with Russia than during the last decade in Afghanistan and Iraq. Russia could retaliate by striking critical infrastructure in Western Europe and the United States with conventional cruise missiles. Moscow would also likely threaten and possibly demonstrate use of nuclear weapons to deter a NATO counteroffensive. Would Western policymakers really be willing to risk their capitals for Tallinn, Riga, and Vilnius? Putin may believe he can engage in brinkmanship to shift NATO's response to economic sanctions.

To avoid a rapid defeat, RAND war games suggest the U.S. should station a corps headquarters and a full modular armored division with three armored brigades and supporting enablers in Europe to defend the Baltics on short warning. Reducing the Russian advantage in tanks to 2.4:1, this force, along with the three NATO battlegroups, three infantry brigades, and one Stryker brigade, could hold the Baltic capitals for two to four weeks with prepositioned stocks of fuel and ammunition. Another nine to 12 NATO armored brigades would need to counterattack rapidly to establish a sustainable defense. These forces largely exist; they are just not ready, not in the right place, and lack infrastructure to move quickly.

Ms. ROSEN. What specific Russian capabilities, which have been demonstrated to date, pose the highest risk to U.S. ground forces? In your opinion, what modernization capability gaps do we need to focus on in the near term to help mitigate these capabilities and/or threats?

Mr. SHLAPAK and Mr. BONDS. The most lethal Russian capabilities that pose direct risk to U.S. ground forces include BM-30 and BM-21 rocket artillery; T-14, T-90, and T-72B3 tanks; AT-14 antitank guided missiles (ATGMs); Su-34 and Su-25 attack aircraft; Hind attack helicopters; Iskander missiles; and cyber-electromagnetic warfare capabilities. Additionally, Russian SA-21, SA-15, and SA-22 air defense systems and fighter aircraft present indirect risk by limiting the defensive counterair, air interdiction, and close air support for ground forces provided by NATO airpower. Army modernization should address critical capability to suppress Russian air defenses, counter long-range fires, defend against low-altitude attacks by aircraft and attack helicopters, survive ATGMs, conduct cyber-electromagnetic warfare, maintain interoperable command systems with NATO allies, and bridge rivers with heavy armor.



Russia has steadily modernized its forces to negate U.S. airpower and dominate its neighbors. Russia has developed a two-tier air defense system with a stand-off advantage that presents a lethal threat to NATO's fourth-generation aircraft. Assuming a 33-percent readiness rate in the Western Military District, Russia could still generate 27 battalion tactical groups or nine brigade equivalents with seven days' warning, achieving a 6:1 advantage in modern main battle tanks versus NATO's current posture in RAND war games. At a 66-percent readiness rate, Russia could generate up to 60 battalions or 20 brigade equivalents with ten days' warning, achieving a 4.5:1 advantage in tanks versus NATO's enhanced forward presence. NATO's artillery would be outnumbered, outranged, and outgunned by Russian artillery. Emerging insights from RAND's analysis of Army capability gaps and modernization priorities observe that Russia's ATGMs can destroy M1A2 tanks, while the active protection system on Russian armor can defeat Javelin antitank munitions. Russia could surge close air support and attack helicopters in low-altitude attacks to destroy U.S. armor, which lack short-range air defense. Russia's cyber and electronic warfare attacks present new challenges with potentially crippling effects. Collectively, this is a prime example of losing "overmatch."

In contrast, the United States has not sized, postured, modernized, and resourced the armed forces to deter Russia since 1992. In particular, the DOD has for 25 years built the Army to defeat third-world powers and insurgents, not a peer competitor. Army modernization programs have been repeatedly cancelled and cut during this time. Fixing forward posture is a necessary but not sufficient condition to prevent a rapid fait accompli. Army modernization is necessary to close the critical capability gaps outlined above in order to succeed in decisive close combat.

Ms. ROSEN. Rotating forces over time seems to be a costly undertaking. After how many 9-month armored brigade combat team (ABCT) rotations does it become more cost effective to permanently base an ABCT in Europe?

Mr. BONDS. RAND has the analytic capability but has not yet been asked to complete a detailed cost analysis of the range of possibilities about how and where units would be based, operated, and supported under permanent stationing or rotational presence over time. Nor has RAND completed an analysis of different posture locations, methods, and force levels to determine their respective strategic and operational advantages, disadvantages, costs, and risks.

However, we offer the following operational and force sufficiency considerations.

- Rotating an armored brigade with its equipment to Europe provides the most ready unit forward and improves power projection skills in Europe.
- However, it requires all nine current armored brigades in the active component to meet three rotational requirements for deterrence in Europe, Korea, and Kuwait at a 1:2 ratio.
- The Army currently does not have enough capacity to maintain three rotational armored brigades in Europe to deter Russia while meeting its other two requirements in Korea and Kuwait.
- Even accounting for the two additional armored brigades that the Army plans to build plus the five armored brigades in the National Guard, the Army will not have enough capacity to maintain five rotational requirements.
- Given the enormous costs of miscalculation, war, and escalation with Russia, the Army, DOD, and Congress should consider growing three new armored brigades and stationing them in Europe to provide a minimum credible deterrent, reduce rotational turbulence, and sustain unit readiness in the United States.

We also offer the following considerations on different types of costs.

- Some recurring costs are higher for permanently stationing forces overseas, including housing, dependent education, and cost of living adjustments.
- Other categories of recurring costs can be higher for rotating forces to meet overseas missions, such as transportation costs for unit deployment and return.
- Some categories of recurring costs are challenging to estimate without a detailed understanding of where and how units will be stationed, operated, and supported.
- In addition to recurring costs, there may also be one-time costs for either permanent stationing (e.g., military construction) or rotation (e.g., equipment sets).
- Host nation support may offset some or all of the additional costs discussed here, such as soldier/unit support, base operations, and military construction.

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Mr. HUNTER. Though the U.S. has improved its conventional military presence in Europe, further improvements are needed to maintain a credible deterrence in pos-



ture. A recent CSIS report, *Evaluating U.S. Army Force Posture in Europe: Phase II Report*, recommended the following improvements to U.S. European force posture as means to maintain a credible conventional deterrence posture:

- “An armored brigade combat team and a full-strength combat aviation brigade should be permanently assigned to Europe.”
- “The U.S. based rotational force should be transitioned from an armored brigade to an infantry brigade and possibly provided with pre-positioned equipment in the east for training and exercises.”
- “The U.S. rotational troop presence in each Baltic State should be expanded from a company to a battalion.”
- “Equipment should be pre-positioned in Western Europe for four U.S.-based brigades (two ABCTs, one fires brigades, and one sustainment brigade) to enable rapid surge capacity in a crisis.”
- “Increased U.S. force posture and defended investments in Europe must be nested in a whole-of-government approach and accompanied by significant increases in defense spending and contributions from NATO allies.”

Ms. ROSEN. Rotating forces over time seems to be a costly undertaking. After how many 9-month armored brigade combat team (ABCT) rotations does it become more cost effective to permanently base an ABCT in Europe?

Mr. HUNTER. In evaluating U.S. Army Force Posture in Europe: Phase II Report, the CSIS authors recommend permanently stationing a third ABCT in Europe “in order to improve deterrence, sustainability, and likely long-term cost effectiveness.” In conducting that study, the CSIS study team found that determining when it becomes more cost effective to permanently station an ABCT in Europe is difficult to determine, as it depends on several factors, such as permanent basing location, burden-sharing agreements, length of rotations, etc. The study team further concluded that it is likely to be cheaper to permanently station an ABCT in Europe than to continuously rotationally deploy forces through Europe over the long term. This finding is supported by the historical example of the Army’s increased size and equipment requirements of the heel-to-toe ABCT deployments in the 1970s. During this time, the Army briefly experimented with rotational deployments to bolster its European presence before electing to permanently station these forces due to cost-considerations. Additionally, the increased size of the rotational forces and decision to not use prepositioned equipment will drive the cost of rotating forces higher than the \$637 million/year listed in the President’s FY17 budget request.

In making the decision whether to permanently station an ABCT in Europe, there are several important questions Congress needs to resolve: How long will the U.S. maintain this increased presence in Europe? Where would an ABCT be permanently stationed in Europe? Before deciding to permanently station a third ABCT in Europe, decision makers need to identify how long the U.S. might expect to maintain this increased force posture. Permanently stationing forces in Europe requires a substantial upfront MILCON investment in the form of new bases/expansion of old bases coupled with the cost of construction for new housing, installations, schooling, etc. for families. If the U.S. expects to only maintain an increased European force presence for a few years, the Army will not achieve savings from permanently stationing forces as opposed to continuously rotating forces through Europe. The second question that must be answered by Congress is the following: where would an ABCT be permanently stationed in Europe? While it’s preferable to permanently station an ABCT closer to the NATO’s Eastern borders, cost considerations and logistics dictate that it is more likely that an ABCT would be permanently stationed somewhere in Germany. Compared to other locations, stationing an ABCT in Germany would likely lead to a smaller upfront reduce a smaller upfront MILCON investment at the expense of reaching the frontlines slower.

Ms. ROSEN. What specific Russian capabilities, which have been demonstrated to date, pose the highest risk to U.S. ground forces? In your opinion, what modernization capability gaps do we need to focus on in the near term to help mitigate these capabilities and/or threats?

Mr. HUNTER. Multiple CSIS studies have found that Russian anti-access/area denial (A2/AD), ground combat, and non-kinetic capabilities present the greatest pacing threat for the United States Army. The Russian A2/AD concept of operations is a sophisticated, layered, redundant, multi-domain network that hinders the U.S. ability to project power in Europe and presents challenges to certain fundamental assumptions about the Army and its role in the joint force. Comparing ground combat capabilities, the U.S. retains a diminished lead in combat vehicles, while the Russians have surpassed the U.S. in indirect fires capabilities. Finally, Russian non-kinetic capabilities, particularly in EW and cyber operations, significantly out-pace the limited capabilities the U.S. Army could currently bring to a future conflict.



Given the Russian challenges, in a forthcoming CSIS report, *The Army Modernization Imperative: A New Big Five for the Twenty-First Century*, the CSIS authors recommend that the Army prioritize five capabilities: Electronic Warfare, Air and Missile Defense, Cross-Domain Fires, Advanced Protection, and Logistics. Given funding limitations, these five cross-cutting capabilities offer the greatest return on investment for the Army. In Electronic Warfare, the Army portfolio is “empty” after neglect since the end of the Cold War and requires substantial investment in both offensive and defensive capabilities. Short Range Air Defense capabilities should be a top priority in Air and Missile Defense, accompanied by incremental upgrades to PATRIOT. Given trends in the future operational environment, the Army needs to increase investments in fire systems that enable greater effectiveness and range across multiple domains to include cyber and space. In Advanced Protection, active protection systems are necessary given the proliferation of advanced munitions. Finally, commercial advancements can be harvested for military logistics to improve military effectiveness and negate future operational limitations.

