

## Asymmetrical Arms Control: How to Account for Innovation and Diversity in European Armed Forces

*Torben Schütz*

Conventional arms control in Europe is in crisis. As it is based on a simple headcount of weapons systems, it does not reflect the qualitative changes to armed forces' structures and assets brought about by technological innovation. It is high time to embrace asymmetrical arms control mechanisms which are a promising method to deal with the diversity of qualitative changes in European armed forces. Germany should push for such innovation within the OSCE.

### Conventional Arms Control in Europe: From Cornerstone to Obsolescence

Security policy as well as the military and technological realities behind it have changed considerably since the end of the 1980s, when the current arms control architecture in Europe was negotiated and implemented. What was then a cornerstone of European security now only represents a legacy from a bygone era, unable to effectively stop today's arms races.

After the end of the Cold War, most NATO states as well as Russia shifted their focus from deterrence and defense against a hostile yet similar military bloc to counterterrorism and state-building operations. Other member states of the Organisation for Security and Co-operation in Europe (OSCE) concentrated on conflicts in their immediate neighborhood, often as participants. Since the Russian annexation of Crimea in 2014 and the beginning of the war in Eastern Ukraine, both NATO and Russia have shifted their attention back towards deterrence and defense.

While these developments might suggest that existing arms control treaties could regain their former importance, military and technological developments have fundamentally altered the way armed forces operate. This has made traditional arms control mechanisms largely ineffective. Nevertheless, the case for effective arms con-

trol regimes remains as valid as ever. Decreasing the risk of war between adversaries as well as limiting or even preventing arms races continue to be important goals for any state interested in a peaceful and prosperous Europe.

### The End of Symmetry

Two of the trickiest problems of conventional arms control today are linked to the military and technological developments that have taken place over the last three decades: first, the increasing importance of quality as compared to quantity for armed forces and their equipment; and second the diverging development paths taken by European armed forces. Force-multiplying equipment related to reconnaissance, command and control, and transport has gained in importance. Without modern intelligence, surveillance, and reconnaissance equipment, forces remain blind, dumb, and silent and thus become easy targets for armed forces able to combine information superiority with the extensive use of precision-guided munitions. Old treaties like the Treaty on Conventional Armed Forces in Europe (CFE Treaty, see box) that focused mainly on equipment numbers cannot address this

development. In fact, their focus on quantitative arms control in the form of specific equipment ceilings incentivizes quality improvements in the regulated equipment categories as well as a stronger emphasis on non-regulated categories, thus contributing to the concept's obsolescence.

Most of Europe's armed forces are no longer large, conscription-based armies organized in huge formations like divisions or corps, designed to fight a high-intensity, conventional, mechanized war in Europe. Instead, they mostly are professional forces arranged in smaller units like brigades, designed to be rapidly deployable and to fight battles with low- to mid-intensity. However, while this broad description fits most OSCE member states, it is not true for all of them, and even where it is, states are in different stages of this conversion. The result is a wide variety in the structures and equipment of armed forces in Europe today. In this environment, symmetrical conventional arms control, as enshrined in the CFE Treaty, is difficult to achieve. Finally, there is a worrying convergence between conventional and nuclear military capabilities, based on the rapid modernization of existing stockpiles and the addition of low-yield nuclear warheads, which may increase the danger using them as regular weapons.

## Failed Reforms

Of course, the OSCE has not ignored these developments. Two negotiation processes designed to renew the pan-European security architecture stand out: the Corfu Process of 2009/2010 and the Panel of Eminent Persons launched in 2014. Both emphasized arms control, transparency, and confidence- and trust-building measures as central to "hard security" - that is military security - in Europe. However, the reforms proposed were mostly limited to marginal changes to the existing treaties, especially the CFE Treaty, or to new treaties on conventional arms control based on similar mechanisms.<sup>1</sup> Furthermore, the CFE Treaty's political foundation was eroded when Russia suspended its participation in the treaty in 2007 and in its Consultative Group in 2015.

In 2017, Germany introduced the "Structured Dialogue" to the OSCE to facilitate an exchange on threat perceptions and military information between member states. It hoped this would lead to reforming the conventional arms control architecture in Europe. However, to be successful, this initiative needs to achieve more than a mere tweaking of existing treaties. Otherwise, the Structured Dialogue will fall into oblivion as did its predecessors.

## Central treaties on conventional arms control in Europe:

- Treaty on Conventional Armed Forces in Europe (CFE), from 1990:  
The Treaty aimed to establish a military balance between the NATO and the Warsaw Treaty Organization at a lower level of armaments. It regulated the maximum number of main battle tanks, infantry fighting vehicles, artillery, attack helicopter, and fighter aircraft for both alliances in a given geographical area (from the Atlantic to the Urals).
- Vienna Document (VD), from 1990 (last updated 2011):  
As the key document on confidence and security building measures, the Vienna Document promotes trust and predictability through transparency and verification measures covering the armed forces and major equipment systems.
- Open Skies Treaty (OS), from 1992:  
The Treaty established a regime of unarmed observation flights over the territories of state parties. It specifies, inter alia, quotas for observation flights, the notification of points of entry, technical details and inspections for sensors.

## Towards Asymmetric Arms Control

Asymmetric arms control is based on an understanding of military equipment that gives a more accurate representation of the fighting power than simple headcounts can do. Current arms control regimes like the CFE Treaty are based on the principle of symmetrical armed forces. Assets have the same value if they fulfill specific criteria, e.g. for being counted as a battle tank (sufficiency definition). Such an approach incentivizes qualitative improvements to each tank, increasing its fighting power and thus the overall fighting power of the armed forces fielding it. In contrast, an asymmetrical system values a battle tank in accordance with its specific performance parameters. It gives each equipment type a point value based on technical information (holistic definition), which more accurately describes the actual fighting power of that battle tank. Commercial strategy and war games have long used this mechanism to create equal competition conditions for gamers.<sup>2</sup>

Asymmetric approaches to arms control do not require participating states or parties to limit their military equipment to the same quantitative ceiling. Even more importantly, they do not restrict participating states to the same military equipment – it is not "a tank for a tank" but rather "a tank for half an aircraft." Hence, an asymmetric

arms control regime grants a large degree of freedom to participating states to structure their armed forces and equipment according to their individual military doctrine.

In such a system, each participating state has a national point ceiling it can 'spend' on military equipment of its liking. This point value system would be applicable to more armament categories than the original CFE Treaty, reflecting the changes which have taken place by placing high point values on force multipliers such as air-to-air refueling aircraft, communication satellites or command and control equipment. Armed forces with a bulk of less advanced equipment could field many low-valued assets, while more modern forces would be restricted to deploying fewer high-value assets.

This type of arms control regime has two advantages: First, a more substantial part of military capabilities can be covered if many different types of weapons are included. Second, it is more likely to gain political acceptance because participating states gain flexibility. Moreover, political entry barriers are lower as such agreements do not necessarily require upfront reductions in military equipment or capabilities. Reductions can be part of later negotiations.

The value of this approach becomes obvious when applied to real-life situations. The following table shows its application to a modern air force, capable of conducting

complex air operations, as compared to an old-fashioned force, and for modern versus traditional ground operations.

Point values can be attributed to any component of military equipment, e.g. to chassis, airframes, hulls, weapon systems, radars, engines, etc. Every type of tank, aircraft or ship would have a unique point value, aggregated from its main components, which would be added to the overall point value of the state's armed forces. Furthermore, a range of other factors such as the proximity of equipment to sensitive regions, or borders in general, its readiness level, its integration into specific forces structures or capability clusters, or its incorporation into national or multinational force structures could influence point values. Such information is already to a large extent part of European arms control and confidence-building treaties.

Point ceilings would be attributed to every state or region, replacing current national or regional quantitative ceilings for specific military equipment. This would give a more accurate approximation of the military capabilities based in a certain area than current arms control systems which only focus on the overall number of weapons systems.

National point ceilings can either be defined by taking into account national data such as the Gross Domestic Product, population, geographical area, etc. The formula

**Table 1: Example of a Point-Value System for Modern vs. Traditional Air Operations**

| Modern Air Force |             |             |                   | Older Air Force |             |             |                   |
|------------------|-------------|-------------|-------------------|-----------------|-------------|-------------|-------------------|
| Quantity         | Equipment   | Point-Value | Total Point Value | Quantity        | Equipment   | Point-Value | Total Point Value |
| 10               | Eurofighter | 160         | 1.600             | 35              | F-4 Phantom | 75          | 2.625             |
| 4                | Tornado ECR | 160         | 640               |                 |             |             |                   |
| 10               | Tornado IDS | 140         | 1.400             | 30              | Alpha Jets  | 50          | 1.500             |
| 2                | A330 Tanker | 250         | 500               |                 |             |             |                   |
| 26               | TOTAL       |             | 4.160             | 65              | TOTAL       |             | 4.125             |

**Table 2: Example of a Point-Value System for Modern vs. Traditional Ground Operations**

| Modern Army |                                 |             |                   | Older Army |                                    |             |                   |
|-------------|---------------------------------|-------------|-------------------|------------|------------------------------------|-------------|-------------------|
| Quantity    | Equipment                       | Point Value | Total Point Value | Quantity   | Equipment                          | Point Value | Total Point Value |
| 40          | Main Battle Tank Leopard 2A6    | 200         | 8.000             | 110        | Main Battle Tank Leopard 1A5       | 70          | 7.700             |
| 10          | Artillery Panzerhaubitze 2000   | 160         | 1.600             | 25         | Artillery M109G                    | 50          | 1.250             |
| 10          | Air Defence Gepard A2           | 65          | 650               | 25         | Air Defence Gepard                 | 45          | 1.125             |
| 80          | Infantry Fighting Vehicle Puma  | 30          | 2.400             | 190        | Infantry Fighting Vehicle Marder 1 | 15          | 2.850             |
| 25          | Reconnaissance Vehicle Luchs A1 | 50          | 1.250             | 50         | Reconnaissance Vehicle 11-2 Kurz   | 20          | 1.000             |
| 165         | TOTAL                           |             | 13.900            | 400        | TOTAL                              |             | 13.925            |

Source: Compiled by the author<sup>4</sup>

would need to be agreed upon by all parties involved in the new arms control regime. Alternatively, national point ceilings can be set through negotiations and mutual agreement between state parties. This second option has two main advantages: First, it would be easier to ensure respect for the overall objective of the treaty, be it slowing down an arms race (by setting a slow increase of ceilings on all sides) or true disarmament (a lowering of ceilings). Artificial ceilings can be changed if the participating state parties have the political will to do so. Regional or sub-national ceilings for especially sensitive regions – similar to those currently enshrined in the CFE Treaty – could be regularly renegotiated depending on the respective stability in that region and the overall political environment.

Second, a negotiated solution instead of an approach based on the mechanical calculation of overall indicators like GDP or population can take into account the respective national priority given to armed forces, increasing the political acceptability of such ceilings.

### Challenges for Asymmetric Arms Control

The great strength of this approach – the freedom states gain to use their points as they wish – creates important challenges. Complete freedom in the design of military capabilities would rule out any ceilings on specific capabilities, even on those that inherently cause operational and strategic instability such as special forces or long-range strike capabilities. There would be no check on force postures or limitations regarding the development and use of new weapons systems. Moreover, each introduction of new weapon systems would require a political process to determine their point value, which could easily fail if the overall political climate between state parties deteriorates.

Moreover, there is the problem of nuclear weapons. Perceived inferiority in conventional forces may lead to an emphasis on nuclear weapons in military planning and armament policies, potentially increasing the number of nuclear weapons and lowering the threshold for the use of at least tactical nuclear weapons in a conflict. Hence, nuclear weapons and especially tactical nuclear weapons will have to be included in the overall point value system, which further complicates negotiations. Finally, there is the issue of secrecy about weapons systems, which means that the technical parameters on which point values would be ascribed are inherently imperfect.

### Verification Remains Important

Moreover, even with the point value system, one of the most fundamental problems of conventional arms control persist: the incentive for states to provide wrong data or hide equipment. Hence, transparency, trust building-measures, and, most importantly, verification mechanisms need to accompany this type of arms control regime as well. They can be based on existing mechanisms, especially the Vienna Document<sup>3</sup>, which encompass detailed information on the military equipment it covers. Any successor treaty would simply have to incorporate additional technical information on which to base the ‘point tables.’

### The Way Ahead

Asymmetric arms control based on the ‘real’ value of military equipment can overcome several of the serious flaws and problems marring current arms control treaties such as the CFE Treaty. At the same time, it is flexible enough to account for the continuing development of armed forces in Europe.

A new treaty based on asymmetrical arms control mechanisms could make use of existing consultative bodies within the OSCE to set up the regular exchanges and decision-making meetings required to make this system function. This would minimize the disadvantages and political costs of negotiations to determine the ‘real’ value of military equipment as well as national and regional ceilings.

If politically feasible, it would be useful to create an agency within the OSCE, staffed by military personnel from state parties, to continuously update the ‘point tables.’ However, this would require extensive political and financial support and may not be feasible in the near future. In the meantime, a body like the weekly Forum for Security Cooperation or a new format with a similar design and schedule could be used to bring military experts from state parties together to draw up proposals on the point values allocated. Based on their work, decisions could be taken twice a year by a body designed like the Joint Consultative Group, now in place for the CFE Treaty. But in contrast to the current Joint Consultative Group, the new body should include all OSCE state parties (as the Forum for Security Cooperation does), and not just those participating in the CFE Treaty. That would increase its relevance.

Arms control negotiations have never been easy, and they can and have failed even after lengthy talks. In the framework of the OSCE’s Structured Dialogue, Germany should persevere in its current efforts to improve trust-building by encouraging OSCE member states to exchange views on threat perception. But it should stop

wasting resources on small and ultimately ineffective reforms of the existing architecture and embrace innovation. In accordance with the Structured Dialogue's explicit goal of relaunching conventional arms control, Germany should push for a new treaty based on asymmetrical arms control mechanisms. Bold and innovative action on treaty architecture is needed to address the ever-continuing changes in armed forces across the continent and enable an effective arms control regime in Europe.

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*Research for this publication has been funded by the German Federal Foreign Office. It represents the opinion of the authors, not that of the German Federal Foreign Office.*

## Notes

- 1 See for example OSCE (2015): "Back to Diplomacy - Final Report and Recommendations of the Panel of Eminent Persons on European Security as a Common Project", last retrieved 25.05.2019, < <https://www.osce.org/networks/205846?download=true>> p.15.
- 2 Table Top games, which closely resemble armed forces' war games of the late 19th century, are particularly good examples for this. See Martin van Creveld (2013), *Wargames: From Gladiator to Gigabytes*, Cambridge University Press, p.145ff.
- 3 Point values here are loosely based on the computer strategy game "Wargame: Red Dragon" by Eugen Systems. Wargame: Red Dragon is a real-time strategy video game which simulates military encounters between democratic NATO (BLUFOR) and communist PACT (REDFOR) forces set in a "Cold War gets hot conventionally"-scenario. A lot of military equipment now used in armed forces across Europe is included and valued as well; the points allotted have been rebalanced several times since the release of the game in early 2014. It is the third game in the series, published by the French company Eugen Entertainment; [...] One of the game's draws is its fine-grained level of combat simulation. Players build "decks" composed of unit "cards" to compete with each other [...], retrieved 20.08.2017 from <https://github.com/ResidentMario/wargame-data>.
- 4 The Vienna Document is an agreement between the participating states of the Organization for Security and Co-operation in Europe which implements confidence and security building measures. It includes an annual exchange of military information about forces located in Europe (defined as the Atlantic to the Urals), notifications for risk reduction including consultation about unusual military activities, prior notification of certain military activities, mutual observation of certain military activities and compliance and verification by inspection and evaluation visits.

DGAPkompakt / Nr. 12 / June 2019



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#### Herausgeber

Deutsche Gesellschaft für  
Auswärtige Politik e.V.  
ISSN 2198-5936

Redaktion Bettina Vestring

Layout/Satz Andreas Alvarez

Designkonzept Carolyn Steinbeck · Gestaltung