



IT 4 Sec Reports

Comparative Defence Data Analysis

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Georgi Tsvetkov**

Сравнителен анализ на данни за отбрана

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90

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IT4Sec Reports 90 „Comparative Defence Data Analysis” outlines what is considered good practice in formulating defence policy, in particular in emphasising particular missions of the armed forces, in managing defence personnel, in understanding what a certain level of defence allocations would mean for the capacity of the armed forces to perform assigned missions, and in managing main categories of defence assets. Towards this purposes the study compares the practices of 18 mid- to small-size countries – all more or less transparent in their defence affairs, based entirely on publicly available data.

IT4Sec Reports 90 „Сравнителен анализ на данни за отбраната” разглежда добрите практики във формулирането на отбранителна политика, в частност при дефинирането на мисии на въоръжените сили, управлението на личния състав в отбраната, разбирането как разпределението на средствата за отбрана се отразява на изпълняваните мисии и управлението на основните категории отбранителни активи. За тази цел изследването, основано на информация от открити източници, сравнява практиките на 18 малки и средни по размер страни – всички отличаващи се със своята относително прозрачна политика и дейност в сферата на отбраната.

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SUMMARY

By three methods we may learn wisdom: First, by reflection, which is noblest; Second, by imitation, which is easiest; and third by experience, which is the bitterest.

Confucius

Defence is expensive endeavour, attracting limited societal resources. When done properly, it brings perceptions of security and safety. When the perceptions are that the defence establishment is not prepared to deal with current and forthcoming challenges and/or that it wastes public resources and is thus just a burden on society, public support to the defence institution can quickly decline.

But how can a person with limited knowledge and experience in defence matters, e.g. one that has been recently elected to a parliamentarian or an executive position, understand the meaning of suggestions, proposals, and assessments of seasoned military or civilian defence officials?

This study was intended to outline what is considered good practice in formulating defence policy, in particular in emphasising particular missions of the armed forces, in managing defence personnel, in understanding what a certain level of defence allocations would mean for the capacity of the armed forces to perform assigned missions, and in managing 'big ticket' defence assets. For this purposes the study compares the practices of 18 mid- to small-size countries – all more or less transparent in their defence affairs.

This analysis made was based entirely on publicly available data. It was performed by the Centre for Security and Defence Management (CSDM) under contract # 11599 between the Geneva Centre for the Democratic Control of the Armed Forces (DCAF) and the Institute of Information and Communication Technologies of the Bulgarian Academy of Sciences, of which CSDM is part.

INTRODUCTION

This report examines, in a comparative perspective, defence data and decision making approaches of the management of key defence resources: personnel, finances, and material assets. In order to understand resource allocation decisions, and in particular defence expenditure levels, the available data is examined *vis-à-vis* definitions of main defence policy objectives and actual mission records.

The study covers eighteen countries, for which defence data is readily available. Most are mid-sized countries, while a few are somewhat smaller. The following countries were covered in the study:

1. Argentina
2. Brazil
3. Bulgaria
4. Canada
5. Chile
6. Colombia
7. Finland
8. France
9. Germany
10. Greece
11. Italy
12. Netherlands
13. Norway
14. Poland
15. Romania
16. Spain
17. Turkey
18. United Kingdom.

These countries differ in their foreign and defence policies. Some are members of NATO, some of the European Union. Half of the countries are members of both NATO and the EU, and a few countries in Latin America do not belong to any of these alliances.

For the underlying understanding of 'defence policy' the reader may refer to Tagarev (2006). The comparison is based on a methodological approach, implemented first by Thomas S. Szayna (2001) and enhanced by Tagarev and Velkova (2009). Therefore, in addition to force size and defence expenditures, we use data on actual contribution to peace operations and purchasing power of the defence budget, thus allowing for more refined assessment of the opportunities of each country to develop modern defence capabilities.

The study is based on data from authoritative sources, such as the most recent issue of *Military Balance*¹ and the NATO database on defence expenditures.² When there are gaps in such

¹ *The Military Balance 2011*.

² Annually, in its "Information on Defence Expenditures," NATO publishes a compendium of financial, personnel and economic data for all member countries.

data, the study uses country reports submitted to the United Nations through its *Standardized Instrument for Reporting of Military Expenditures*³ and national defence policy and budgetary documents.

When there were still gaps left, the respective country was excluded from the sample of the compared countries.

Thus, we provide validity of the findings of this study. However, the study examines the most recent available data, thus limiting the validity to a certain point of time, i.e. the results do not reflect trends and do not indicate any future developments in the countries' defence policies, decision-making mechanisms and expenditures.

The remaining part of this report is structured in four sections. First, we compare major defence policy decisions, with focus on mission statements and decision making on force structures. Secondly, the report compares data on defence personnel, both military and civilian, and the respective decision making. The third section presents comparative data on defence expenditures, including a representation allowing to compare the actual level of defence capabilities of the sample countries. The fourth section examines main principles of decision making on defence procurement and properties. The report concludes with reiteration of key findings.

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³ The UN Standardized Instrument for Reporting of Military Expenditures was used in particular for data on the breakdown structure of defence expenditures.

MAJOR DEFENCE POLICY DECISIONS

Security and defence concerns of modern societies are shifting under the impact of asymmetric threats, increasing frequency of natural and man-made disasters, enhanced societal awareness and readiness to demand adequate public services. A current trend in many countries is that, while preserving their lead role in the protection of sovereignty, independence and territorial integrity, armed forces will increasingly be expected to act decisively against non-traditional threats originating at great distances from home bases, as well as to contribute to countering terrorist threats at home and the response to natural disasters and major industrial accidents. As a result, defence establishments around the world are in a process of transformation that should provide for a robust set of diverse capabilities of the armed forces.

These capabilities, and the respective decisions on budget allocation, have to reflect politically defined (or sanctioned) mission statements.

MISSION STATEMENTS

There are a lot of similarities, as well as differences, in the way countries define the missions of their armed forces. Below is a list of the mission statements of the countries covered by the study, whereas [Table 1](#) summarises the comparison of mission statements.

- The primary mission of the Argentina's Military is defined in the following way: "to deter aggression or to employ its means effectively in order to guarantee nation's vital interests and to permanently protect them from foreign aggressions." The rest of defence missions are defined as "others" and they should be fulfilled with the existing capabilities. Responsibilities about internal security are strictly limited. Armed forces are providing only logistic support.⁴
- No strictly formulated defence missions for the Brazilian military were identified. Nevertheless, such missions can be deducted from the so called 23 "Guidelines" in the National Strategy of Defence. The main focus of these guidelines is the territorial integrity and sovereignty of Brazil.⁵
- The defence missions for the armed forces of Bulgaria include the defence of own territory and of an allied NATO country, support to international peace and security, and "support to national security in peacetime."⁶
- For Canada, the "Defence" mission is mainly understood as surveillance, search & rescue, assistance to civil authorities and counterterrorism. "Defence" also means strong cooperation with the USA, including in the North American Aerospace Defence Command. Expeditionary peacekeeping and crisis response operations are declared as crucial for the national security and defence.⁷
- The Focus of the Colombian defence is the internal security, especially related to existing illegal armed groups (including drug cartels). Main goals of the defence policy are the territorial control and the rule of law.⁸

⁴ *White paper on National Defence* (1999), quote on pp. 81-82.

⁵ *National Strategy of Defence* (2009), pp. 11-19.

⁶ *White Paper on Defence and the Armed Forces* (2010), pp. 19-22.

⁷ *Canada First: Defence Strategy* (2010), pp. 7-10.

⁸ *Policy for consolidation of democratic security* (2007).

- For Finland, the “defence” mission is focused on the ability of the country to defend its own territory against foreign military aggression.⁹
- The focus of the French defence is the capability of defending the nation’s interests outside the borders of the country, e.g. to maintain strong intervention and crisis response capabilities. While talking in terms of “defence,” the emphasis is on strategic nuclear weapons, territorial and maritime surveillance and border control.¹⁰
- For Germany, the “defence” mission is mainly understood as surveillance, search & rescue, assistance to civil authorities and counterterrorism. In the focus of German defence policy is the support to allied countries and crisis response operations.¹¹
- The focus of the defence policy of Greece is its own territorial integrity and sovereignty and those of Cyprus.¹²
- For Italy, the defence mission includes safeguarding Italian citizens abroad.¹³
- In The Netherlands, the “defence” mission is understood mainly as surveillance of Dutch territory, air space and territorial waters. The defence mission includes also support to allied countries in protecting their territorial integrity and sovereignty.¹⁴
- Norway defines as a defence objective having the capabilities to defend its sovereignty and territorial integrity alone.¹⁵
- The defence mission of the armed forces of Poland includes the defence of a NATO ally.¹⁶
- The defence mission of the Spanish armed forces includes military assistance to allied countries and capability of force projection and crisis response operations.¹⁷
- The defence mission of Turkey envisions an internal role of the armed forces (including also the Gendarmerie), dominated by the struggle with PKK. It is also heavily influenced by the controversies with Greece about Cyprus and Aegean Sea.
- The focus of the UK defence is on the capabilities for defending the nation’s interests outside the country’s borders, e.g. to maintain strong intervention and crisis response capabilities.¹⁸

Table 1 summarises the results of a more detailed review of public defence policy documents to assess how countries define the missions of their armed forces. In particular, the table provides information whether typical missions such as defence, peacekeeping, expeditionary crises response operations, internal security, military assistance to the civilian population, and humanitarian relief are considered part of the country’s defence policy.

⁹ *Finish Security and Defence Policy* (2009).

¹⁰ *The French White paper on Defence and National Security* (2008).

¹¹ *White paper on German Security policy and the future of Bundeswehr* (2006).

¹² *White paper for the armed forces* (1997).

¹³ *The Chief of the Italian Defence Staff Strategic Concept* (2006).

¹⁴ *Netherlands Defence Doctrine* (2005).

¹⁵ *Norwegian Defence* (2008).

¹⁶ *Defence strategy of the Republic of Poland* (2009).

¹⁷ *Strategic Defence Review* (2003).

¹⁸ *Securing Britain in an Age of Uncertainty* (2010).

Table 1. Types of missions included in national defence policies.

	<i>Defence</i>	<i>Peacekeeping</i>	<i>Expeditionary crises response operations</i>	<i>Internal security</i>	<i>Military assistance to the civilian population</i>	<i>Humanitarian relief</i>
Argentina	X	X	-	X	X	X
Brazil	X	X	-	X	X	X
Bulgaria	X	X	X	X	X	X
Canada	X	X	X	X	X	X
Colombia	X	X	-	X	X	-
Finland	X	X	X	-	X	X
France	X	X	X	X	X	X
Germany	X	X	X	X	X	X
Greece	X	X	X	-	X	X
Italy	X	X	X	-	X	X
Netherlands	X	X	X	X	X	X
Norway	X	X	X	X	X	X
Poland	X	X	X	X	X	X
Spain	X	X	X	X	X	X
Turkey	X	X	X	X	X	X
UK	X	X	X	-	X	X

FORCE STRUCTURE DECISIONS

The modern approach to force planning is to arrive at force size and structuring decision on the basis of capability requirements. There has to be a clear match between stated defence policy objectives and the capabilities of the armed forces.

Since usually the information on capability levels is not in the public domain, one can derive approximate assessments using available information on personnel strength, major platforms, and defence budgets, taking into account also the specific economic environment in which the development of the armed forces takes place. The following chapters examine such indicators of defence capability.

An indicator of capability levels, as well as on the correspondence between stated defence policy objectives and actual performance, is the level of contribution to peace operations and the like. For example, NATO has defined as a force 'usability target' the sustainment of ten (previously eight) percent of the land component of each ally's armed forces deployed in 'out-of-area' operations. Similar targets are under discussion for the air and naval forces. To achieve that, it is

expected that 50 (previously 40) percent of the land component consists of deployable units, with similar targets being set for the sister services.

Figure 1 shows the percentage of troops of the sample countries actually deployed on operations abroad. It shows that the United Kingdom is fairly close to that 'usability target', and for land forces possibly exceeding it. It is followed by Italy, France, Holland, and Canada, with other NATO members not too far behind. The only exception among the NATO allies here are Greece and Turkey, with approximately 0.54 percent of their active militaries deployed in operations abroad.¹⁹

Deployments of Latin American militaries are less as a percentage of armed forces, and in some cases (Brazil, Chile) reflect involvement in a humanitarian mission (in Haiti after the earthquake in January 2010).

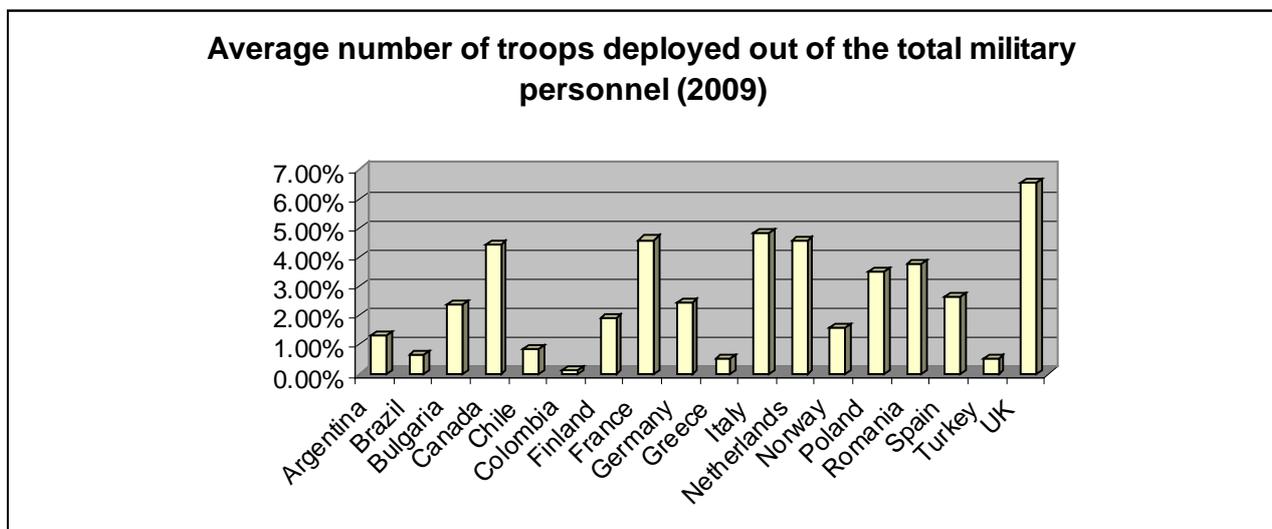


Figure 1: Troops deployed as a percentage of active military personnel (2009).

INTERIM FINDINGS

There are few differences in the formulation of defence missions in compared states. However, reality is more diverse. Nevertheless, several tendencies can be identified:

1. South American countries are traditionally more oriented towards territorial defence. They have limited ambitions in developing force projection capabilities. Colombia is a unique case – its armed forces are almost entirely inwards oriented and tasked to deal with domestic counter-insurgency operations.
2. The armed forces of France, UK and Canada are oriented towards expeditionary operations. France and UK, which have long traditions and overseas territories, are highlighting the required capability to project significant number of forces over great distances in order to ensure their national interests.

¹⁹ This assessment does not account for the significant amount of troops both countries have stationed in Cyprus.

3. Netherlands, Spain and Italy are not so ambitious as France or the UK, but still possess significant expeditionary capabilities. These countries are focusing on allied defence and allied/coalition crisis response operations.
4. Norway and Finland emphasise the protection of sovereignty and territorial integrity in their defence missions. Although effective contributors to international peace operations, these Northern European countries are focused on territorial defence and sustain large and effective reserve forces.
5. The defence policies of Greece and Turkey are by and large dominated by mutual suspicion and unresolved territorial disputes such as over the status of Cyprus. Recent discoveries of energy sources in the shelf do not contribute to remedying this situation.
6. Germany, Poland, Romania, and Bulgaria seem to lack a clear focus of their armed forces and task the military to prepare for a full spectrum of missions, including NATO defence, expeditionary operations and assistance to civilian authorities.

DEFENCE PERSONNEL DATA AND DECISION MAKING

COMPARATIVE DATA ON DEFENCE PERSONNEL

Clearly, the force size speaks of the military power of a country. Obviously, countries with bigger population size could create bigger militaries.²⁰ And since in the sample under study population size varies widely (with 40:1 ratio of the biggest to the smallest population of the countries in the sample), the focus in this chapter is on estimating, from a comparative perspective:

- What is the burden on economy and society of maintaining military forces?
- Is the personnel structure adapted to post-Cold war realities that do not demand large numbers of reservists with little training?
- Do defence establishments utilise civilian personnel in the search of efficiency?

A main personnel-related indicator, in addition to the force size, is the ratio between military personnel on active duty to the population size. Here, Greece by far exceeds in the proportion of the military to the overall population size, with over 1.2 percent of the population serving on active duty. It is followed by Turkey with 0.67 percent, Colombia with 0.61 percent, Bulgaria and Finland with approximately 0.41 percent each.

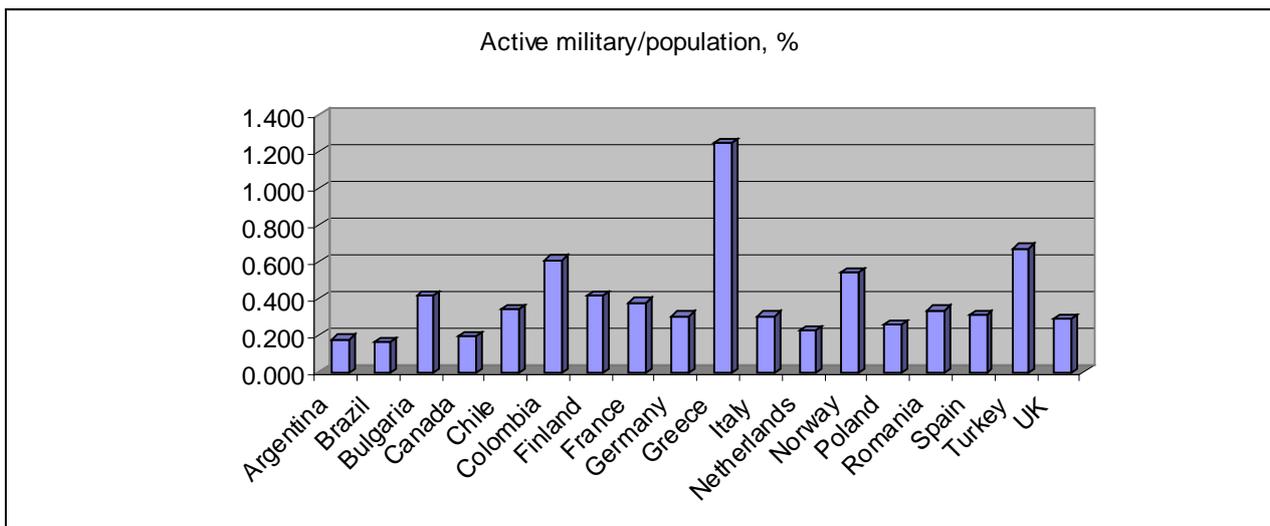


Figure 2: Ratio of active military to population size in percentages.

Another indicator in this respect is the ratio between all involved in defence matters, i.e. active military, paramilitary and defence civilians, and the size of the population (see [Figure 3](#)). Here too, Greece tops the sample (although not that dramatically), followed by Bulgaria, Colombia, and Turkey.

²⁰ But not necessarily to maintain an effective military.

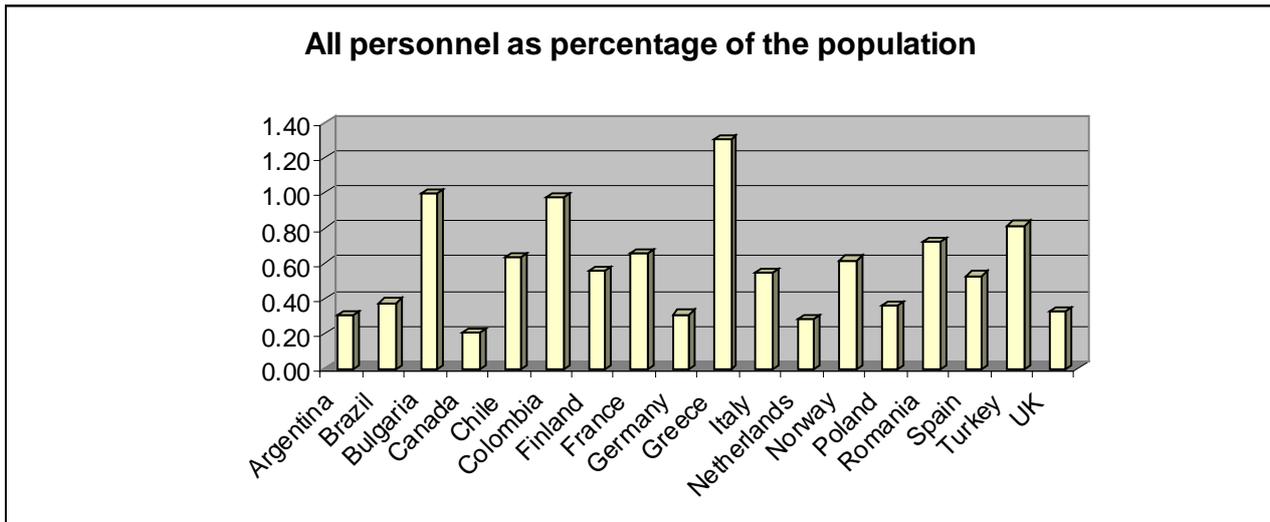


Figure 3: Total personnel—active military, paramilitary and defence civilians—as percent of population.

An indicator for defence capabilities and their relevance to defence policy objectives is the proportion of the reserves to the active military. During the Cold War, many countries maintained large pools of reservists to man their armies in wartime. With the end of the Cold war and the shift of focus to peace operations abroad, the ratio of reserves to active duty military quickly declined, in a number of cases down to a fraction of military personnel in active ‘peacetime’ units. Figure 4 shows the mobilisation capacity of the armed forces, i.e. the ratio between reserve and active duty personnel.

Finland—a non-aligned country, neighbouring a large and historically aggressive country—maintains by far the largest mobilisation capacity with 15.7:1 ratio between reservists and active duty personnel. It is followed by Brazil as distant second, with a ratio of 4.2:1. Among the NATO member countries Spain has the highest mobilisation capacity of 2.2:1, followed by Greece, Norway and Turkey.

However, one needs to have in mind that, occasionally, policy decisions lack behind reality, and distinction has to be made between maintaining lists of non-trained reservists that may be called up to serve in wartime and those reservists that go through training and maintain certain level of readiness. For example, if the 2011 Military Balance data were to be used, the ratio of reserve to active duty personnel for Bulgaria would have been 9.7:1, i.e. the second largest in the sample. However, the Defence White Paper resulting from the 2010 review of force structures accounts only for organised and trained reserves, thus bringing this ratio down to approximately 0.2:1.²¹

²¹ *White Paper on the Defence and Armed Forces of Republic of Bulgaria* (Sofia: Ministry of Defence, November 2010), p. 29.

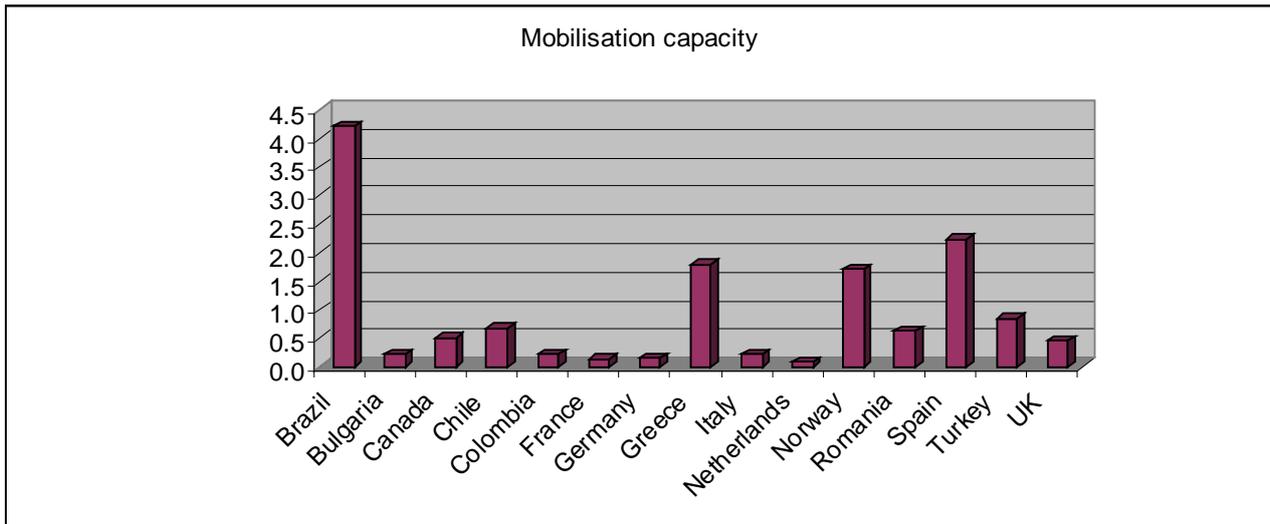


Figure 4: Ratio of reserve to active duty personnel.

Compulsory military service and the number of conscripts may serve as an indicator of the relevance of personnel policies to current security environment, as well as of the impact of military service on educational and economic opportunities for young people. Fewer countries continue to man their armed forces with conscripts. In the last several years several countries, including Bulgaria, Romania and, most recently, Germany transitioned to a full volunteer force. Among the countries, maintaining compulsory military service, Turkey mostly relies on conscripts, who constitute approximately 70 percent of the active military (see Figure 5). Closer among the studied countries comes only Finland with conscripts constituting 61 percent of the active forces.

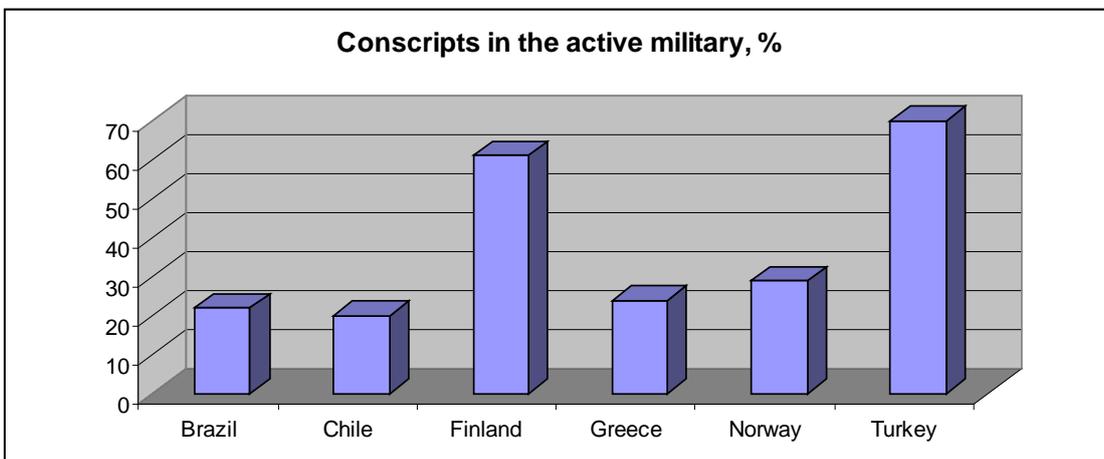


Figure 5: Percentage of conscripts in the composition of the active military.

The utilisation of civilians in the armed forces is an indicator of defence efficiency. It comes with the recognition that not all positions in the armed forces involve the risks typical for the military profession, and the civilians do not receive salaries, retirement privileges, etc. commensurate to those of the military.

Civilians are employed in three main functions:

- Leadership and oversight

- Policy making, as well managerial position in the defence ministry, but also at lower levels in the hierarchy of the defence organization
- Technical positions such as maintenance and logistics services (not necessarily operational, but on the site of permanent stationing of military units), provision of IT services and support, PR, health and social services, etc.²²

Data on civilians in defence establishments is not readily available in public sources. Figure 6 shows the percentage of civilians in total peacetime defence personnel for seven countries in the sample, i.e. paramilitary and reserves are excluded. The figure shows that whenever a country tries to make defence personnel structures more efficient, the civilians in the defence establishment often exceed 20 percent of personnel. That is particularly visible when a country transitions from a compulsory to a full volunteer military service, and non-essentially military functions, performed till then by conscripts, are transferred to civilian employees.

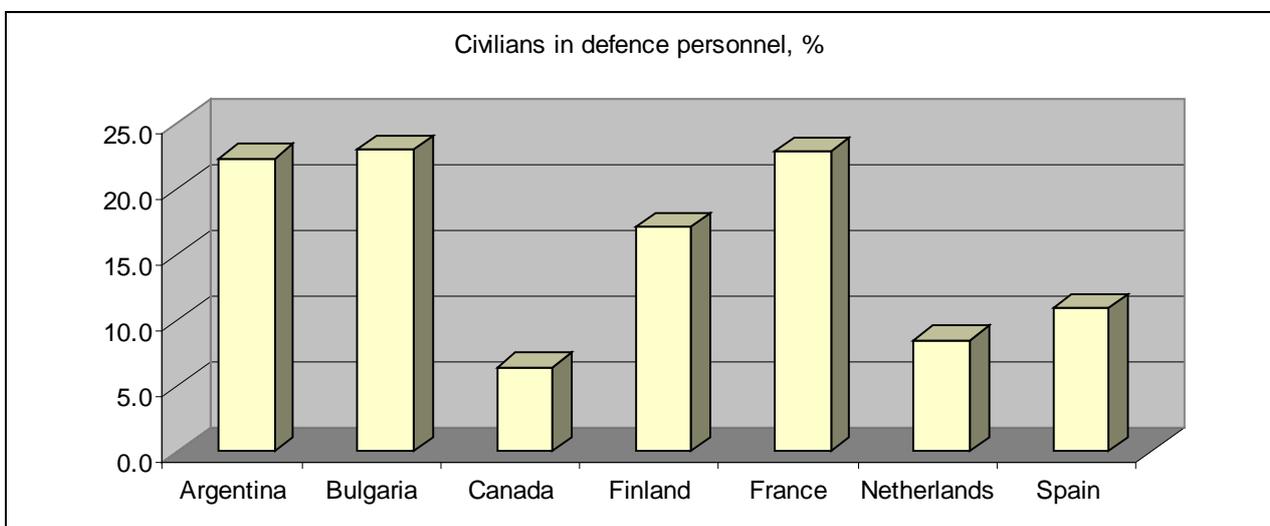


Figure 6: Civilians as a percentage of the total peacetime defence personnel.

DECISION MAKING ON DEFENCE PERSONNEL

The force size reflects major defence policy decisions, including decisions on defence missions and ambitions, eventual specialisation roles in defence alliances, the types of capabilities the country plans to develop, and the levels of readiness the armed forces have to maintain. It thus reflects the perceptions on the security environment and its evolution and in turn defines the requirements to the physical and psychological qualities of categories of defence personnel, their education, training, and career development principles.

Of particular interest in the current security environment is the issue of preserving or not compulsory military service. Accounting for the needs of peace, stabilization and reconstruction operations in distant theatres involving asymmetric threats and the insertion of advanced technologies, the rationale supporting short-term conscript service weakens. In the last decade several countries in the sample, most recently Germany, decided to abolish conscript service and transition entirely to contract-based military service.

²² For details on the three types see Todor Tagarev, "Civilians in Defense Ministries," *Connections: The Quarterly Journal* 7:2 (Summer 2008): 110-117.

Another force structure related issue is that of the rank structure. In the lack of oversight, the rank structure tends to become top heavy, thus inflating senior ranks and making the forces more expensive and less efficient.²³

In order to have a professional and effective military, nations strive to guarantee that decisions on assignment and promotion of military personnel are based on the merits of each individual soldier, airman, or sailor. Assessing merits requires in-depth knowledge of military affairs. Therefore, it is often military personnel at senior levels in the hierarchy that is responsible for assessing performance and deciding on promotions and assignments, preferably in a transparent manner and according to clearly established and relatively stable procedures and criteria.

There are two main exceptions of this principle. The first is in promoting and assigning most senior military officers on the main leadership positions in the armed forces. In most countries such decisions are made by elected officials. Often, such decisions involve two centres of power in a democratic country, e.g. the Cabinet of Ministers and the President as a [Supreme] Commander in Chief of the armed forces. Such duality seeks to provide transparency of the decisions and avoid interference and undue influence of political parties on the officer corps. Another option is provide for a role of parliament in the selection an appointment of officers at leadership positions.²⁴

The second area of regular oversight, and in some cases direct involvement of elected officials, is the commissioning of officers. In some countries that involvement extends to encompass the prior education of officers in military academies.

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²³ For the formulation and parliamentary oversight of personnel policies in defence and security sectors see Chapter 26 in Hans Born, Philipp Fluri, and Anders Johnsson, eds., *Parliamentary Oversight of the Security Sector* (Geneva: Geneva Centre of the Democratic Control of Armed Forces, 2003).

²⁴ Ibid.

DEFENCE EXPENDITURES

Traditionally, defence economists use macro indicators such as defence expenditures as a percentage of the GDP, military personnel as percentage of the population or of the labour force of a country, etc., to assess the prominence of defence policy among other public policies and the burden defence places on societies. In addition, defence expenditures per military personnel have been used to assess, comparatively, the level of *capability* of a military organization. Analysis of the distribution of defence expenditures by category—e.g. on personnel, operations and maintenance (O&M), and investment—also provides useful insights into the defence capabilities of a country. This chapter includes two respective sections, comparing publicly available data, and concludes with the main findings.

LEVEL OF DEFENCE EXPENDITURES

In the study of defence expenditures, first one has to make sure that the data used is accurate, i.e. that it includes all expenditures on defence, no matter whether they are included in the official defence budget or come from other sources. In this regard the NATO definition of military expenditure is considered most comprehensive²⁵

Figure 7 presents the defence expenditures of the sample countries as percentage of their Gross Domestic Product (GDP). Only three of the countries in the ample spend more than 2 percent of their GDP on defence: Greece, United Kingdom, and Columbia, but in the case of the latter that includes the expenditures on a large paramilitary force. Then there is a group of countries—Poland, Brazil, France, Netherlands, Turkey, Norway, Chile, Romania, and Bulgaria—spending between 1.3 and 1.8 percent of their GDP on defence. The remaining countries spend less, with Argentina at the bottom of the sample with defence expenditures at 0.68 percent of the GDP.

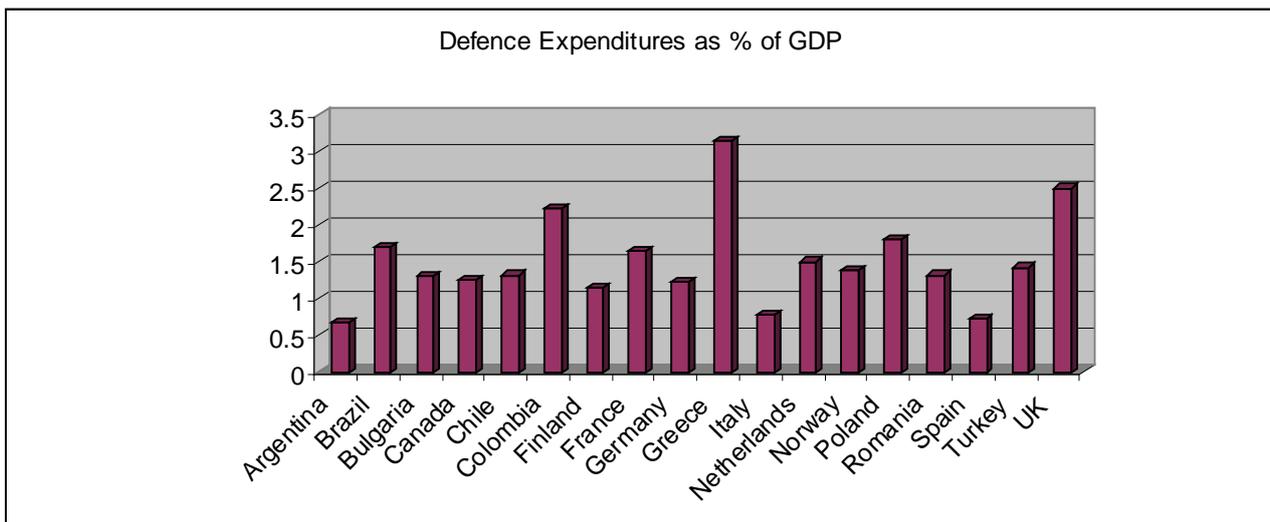


Figure 7: Defence expenditures as a percentage of GDP (2010).

²⁵ See *The Military Balance 2011*, p. 484.

The actual defence expenditures vary more widely (see [Figure 8](#)), with the biggest spender (United Kingdom) spending almost 100 times the defence budget of Bulgaria. That ratio comes down to 43 when the purchasing power of the defence budgets is compared (see [Figure 9](#)).

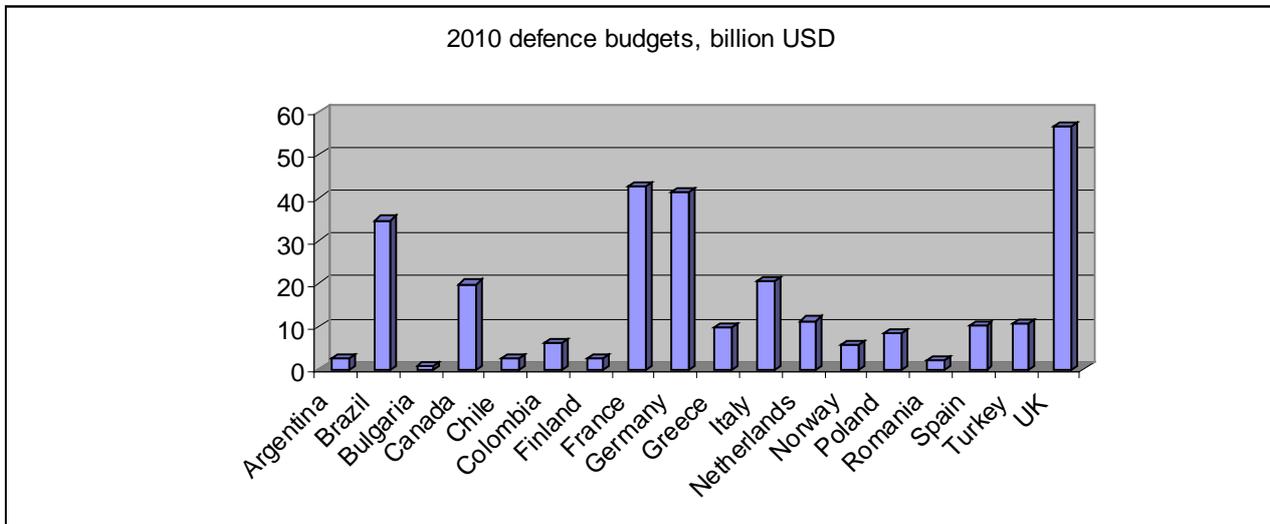


Figure 8: Defence budgets in billion USD (2010).

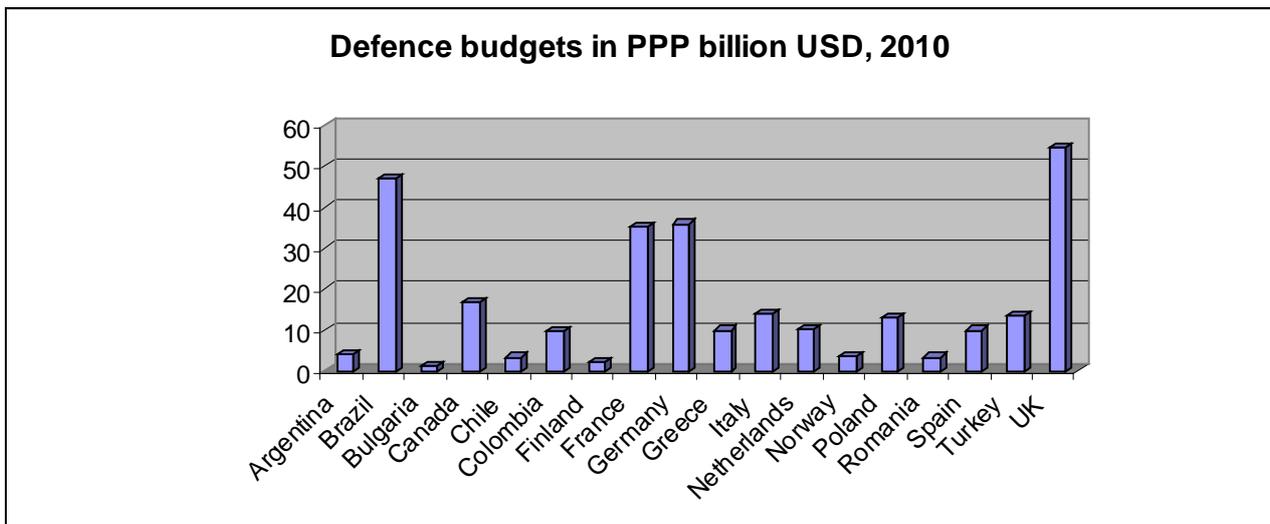


Figure 9: Defence budgets in PPP billion USD (2010).

CAPABILITY DEVELOPMENT OPPORTUNITIES

The purchasing power of the defence budget facilitates the understanding of the level of defence capabilities the armed forces can develop and maintain. PPP, or Purchasing Power Parity, is a systematically estimated indicator for the purchasing power of a currency selected for the study (the US dollar) in a particular country.²⁶ Already in 2001, Thomas Szayna of RAND

²⁶ For an introductory explanation of the concept see the “Purchasing Power Parity” article in Wikipedia.

Corporation accounted for the different purchasing power of defence expenditures in a study on NATO enlargement.²⁷

Thus, capability development and maintenance opportunities can be roughly assessed by a country's defence expenditures, expressed in purchasing power parity (PPP) of the US dollar, divided by peacetime active force size. This indicator for the sample countries is presented on [Figure 10](#).

With 340 thousand PPP dollars per service personnel, the United Kingdom tops the list of sample countries. In this respect it is second only to the United States. It is followed then by The Netherlands with 271 and Canada with 255 thousand PPP dollars. Not surprisingly, these four countries²⁸ carry the most demanding military tasks in the international operations in the Southern and Southeast provinces of Afghanistan.

The newcomers to NATO and the European Union Romania and Bulgaria spent proportionally much less, with respectively 47 and 40 thousand PPP dollars on one active uniformed military person. They are followed by Colombia with 34 thousand, and Turkey closing the sample with only 22 thousand PPP US dollars on a soldier.

While this is an aggregate, rough indicator, it clearly shows that—with the force structure and defence allocation decisions made—these countries hardly provide opportunities for development of modern defence capabilities.

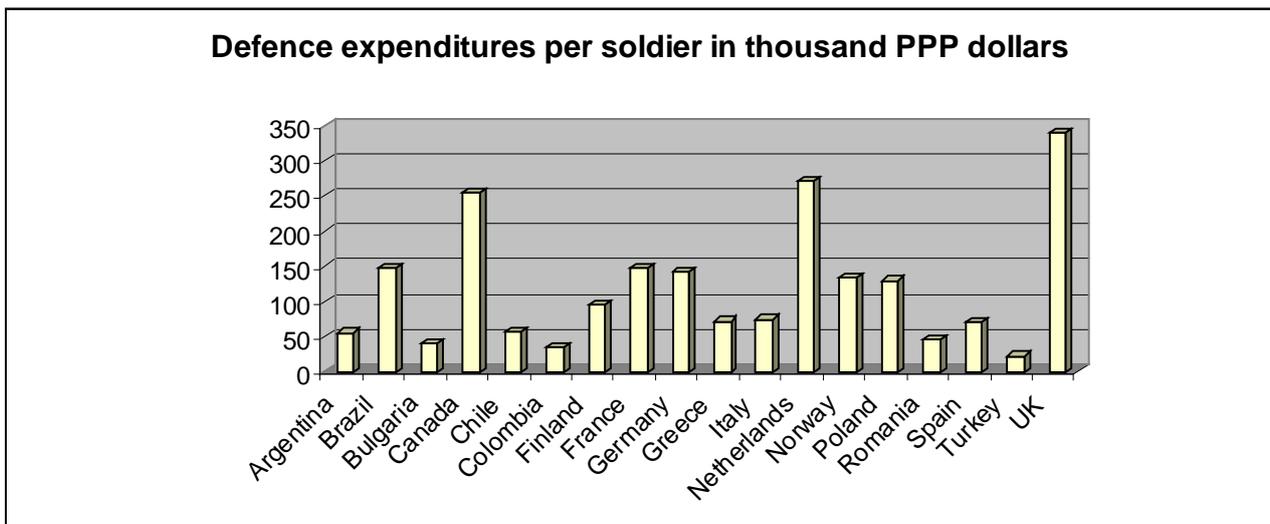


Figure 10: Defence expenditures per active military personnel in thousand PPP dollars.

Another approach to estimate capability development opportunities is through the structure of the defence budget, i.e. the proportions of the budgets spent on (1) personnel, (2) operations and maintenance, and (3) on long-term development, including procurement, construction, and research and development (R&D). It is more difficult to reconcile data sources in this respect, since in their reports countries often reflect different understanding what is to be included in the respective spending categories.

²⁷ Thomas S. Szayna, *NATO Enlargement, 2000-2015*. For a more elaborate model see Tagarev and Velkova, "Bulgaria's Defence Policy and Force Size from a Comparative Macro Perspective."

²⁸ Possibly, Australia also fits in this group of countries, but it is not included in the sample.

Figure 11 shows the proportion of the defence budget countries in the sample spent on their defence personnel. It shows that countries with advanced defence capabilities like the United Kingdom, Canada, France, Norway, and The Netherlands spent between 30 and 50 percent on personnel, including here also pensions.²⁹

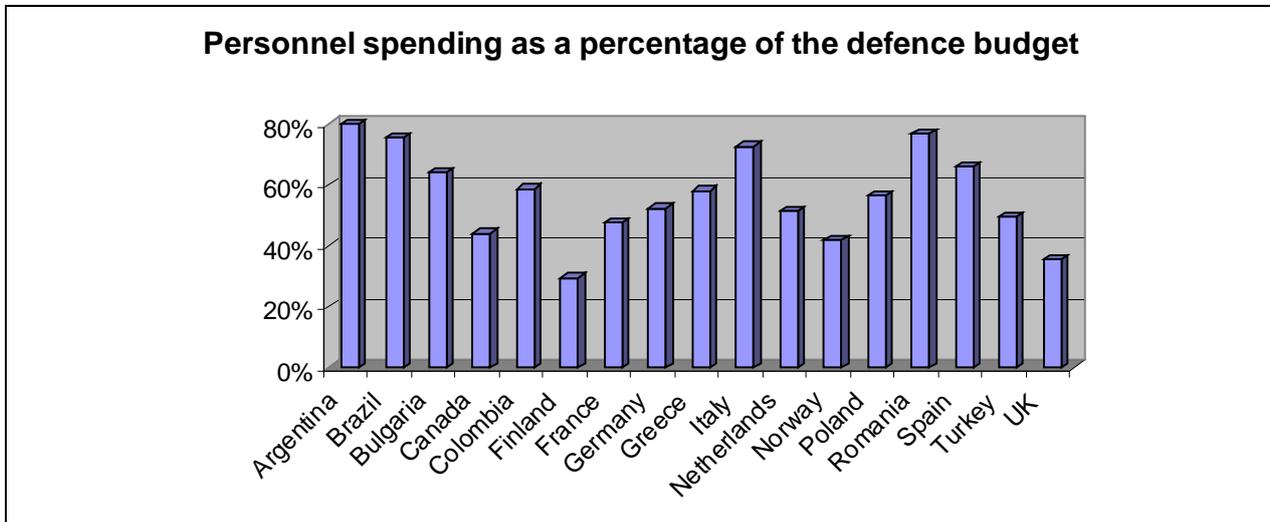


Figure 11: Spending on personnel as a percentage of the defence budget (2010).

Lower the portion of the defence budget spent on personnel, higher are the opportunities for developing and sustaining advanced defence capabilities. Figure 12 shows what portion of the defence budget is dedicated to investments ‘in the future’ through procurement, R&D, and construction. In the sample, France is in the lead according to this indicator and the latest available data, with over 33 percent of its defence budget spent on investment.³⁰ It is followed by Turkey, Greece, Finland, The United Kingdom, and Norway, all above the line of 25 percent investments.

Averaging the investment portion of the defence budget for several years reveals that countries with ambitious defence policy with a solid defence industrial component consistently spent approximately 30 percent on research, technology development, procurement of new weapon systems and equipment, and construction.

Defence analysts consider the proportions 40:30:30 between personnel costs, operations and maintenance, and investments as a benchmark for modern defence policies and respective force structuring. Any considerable deviation from this benchmark has to be explained in rational way.

²⁹ Not all countries in the sample pensions of retired military in their reports on defence expenditures.

³⁰ This number is from the NATO comparative data. The report by France to the United Nations shows 43 percent on investments.

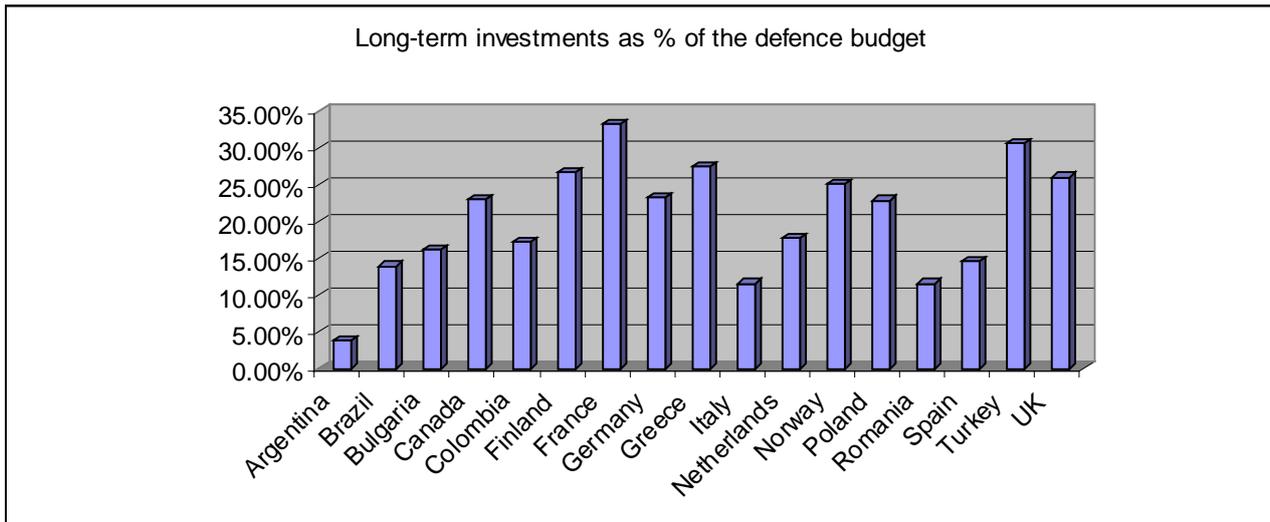


Figure 12: Long-term investments as a percentage of defence budgets (2010).

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MANAGEMENT OF DEFENCE ASSETS

While intended to provide effectiveness and efficiency of defence, the management of defence assets in democracies follows also the principles of good governance, such as:

- transparency and accountability to elected offices and society
- integrity and avoidance of conflict of interests
- using competitive procedures in procuring and utilising surplus defence assets.

This chapter looks in consequence in the specifics of implementing these principles in the management of two main defence resources: defence equipment and its procurement, and dealing with land owned by the defence organization.

DEFENCE PROCUREMENT DECISION MAKING

The defence policy of a given country may be considered transparent if decision makers—the elected representatives of the people—are fully aware of and society is informed on the policy *goals*, existing and planned *means* to achieve the goals, and the *cost* of sustaining those means. A finer level of detail and, respectively, more transparent defence management would provide an informed citizen with opportunities to assess various strategies to achieve the policy goals, alternative policy options, the cost and the risk associated with each option.³¹

Defence procurement decisions have to follow clearly from defence policy and long-term development plans. In order to provide transparency and informed debate, decision makers in the executive and parliament, as well as interested societal and business representatives, e.g. from defence companies, should be provided with an understanding of the linkage between defence objectives, force missions and tasks, required capabilities, and the cost of acquiring and sustaining the new equipment. On a finer level of analysis, decision makers need readily available access to unbiased knowledge and know-how in:

- Mission analysis/ definition of mission deficiencies
- Capability-based definition of operational requirements
- Life cycle costing
- Acquisition programme management
- Acquisition risk management.

Another prerequisite for a transparent and accountable decision making is to use competitive procedures. In democratic countries that is usually implemented through a *law on public tenders*, that is common for all public procurement. Alternatively, and given the sensitivity of *some* procurement procedures, different regulations may be used, but still guaranteeing adherence to the principles of good governance listed above.

³¹ See chapter on defence procurement in Todor Tagarev, ed., *Transparency in Defence Policy, Military Budgeting and Procurement* (Sofia/Geneva: Geneva Centre for Democratic Control of Armed Forces and George C. Marshall - Bulgaria, 2002), pp. 85-96.

Although practice differs in the sample countries, parliaments are also involved in procurement – either through prior sanctioning of major procurements³² or through the sanctioning of defence and industrial policies, the power of the purse, regular reviews of executive and audit reports, and holding inquiries on specific cases.³³

Finally, the same principles managing defence procurement decision making apply also to the utilisation of surplus weapon systems, ammunition, and equipment. Utilisation often involves corruption or illicit transfer to countries or organisations under international embargo. Just like in other defence contracts, corruption risks decrease with the implementation of open tenders and transparent, competitive procedures with clearly formulated requirements, including requirements for environmental safety.³⁴

MANAGING LAND PROPERTY

The same principles apply to dealing with land property as to managing defence procurement. First, however, it is necessary to recognise the fact that land plots are provided to the defence establishment by the state to be used for a specified purpose. *Temporarily*, defence establishments exercise the ownership rights on behalf of the state. This is a management function, performed by the defence minister or another official designated by the minister. The responsible official is responsible to the minister, and then to parliament, in the same way as any other public official managing public property.

Once a particular land plot is no longer necessary for the original purpose, e.g. the exercise or sustainment of a defence capability, a decision has to be made whether to preserve and convert it for other purposes (which would require an executive and the parliamentary sanction, as a minimum through the procedure of defence budgeting) or to dispose of it.

As a rule, it is the civilian administration of a defence ministry that deals with excess property, including surplus terrains. In that, it is recommended to use a transparent procedure. Like the one implemented by the Department of Defence of Australia (see [Figure 13](#)).³⁵

The principle in such case is that, since the land used by the military is owned by the state, any revenue from its disposal should go to the state budget. Through the budgeting procedure elected officials may decide to leave this revenue at the disposal of the defence establishment to be used for purposes in line with approved defence policies.

³² See for example the study by Wim F. van Eekelen, *The Parliamentary Dimension of Defence Procurement*, DCAF Occasional Papers # 5 (Geneva: Geneva Centre for Democratic Control of Armed Forces, 2005).

³³ For full treatment of parliamentary roles the reader may refer to Chapter 28 in Hans Born, Philipp Fluri, and Anders Johnsson, eds., *Parliamentary Oversight of the Security Sector* (Geneva: Geneva Centre of the Democratic Control of Armed Forces, 2003).

³⁴ For details see Chapter 10 in Todor Tagarev, ed., *Building Integrity and Reducing Corruption in Defence: A Compendium of Best Practices* (Geneva: DCAF, 2010), www.dcaf.ch/Publications/Publication-Detail?lng=en&id=113983.

³⁵ *Ibid.*, p. 121.

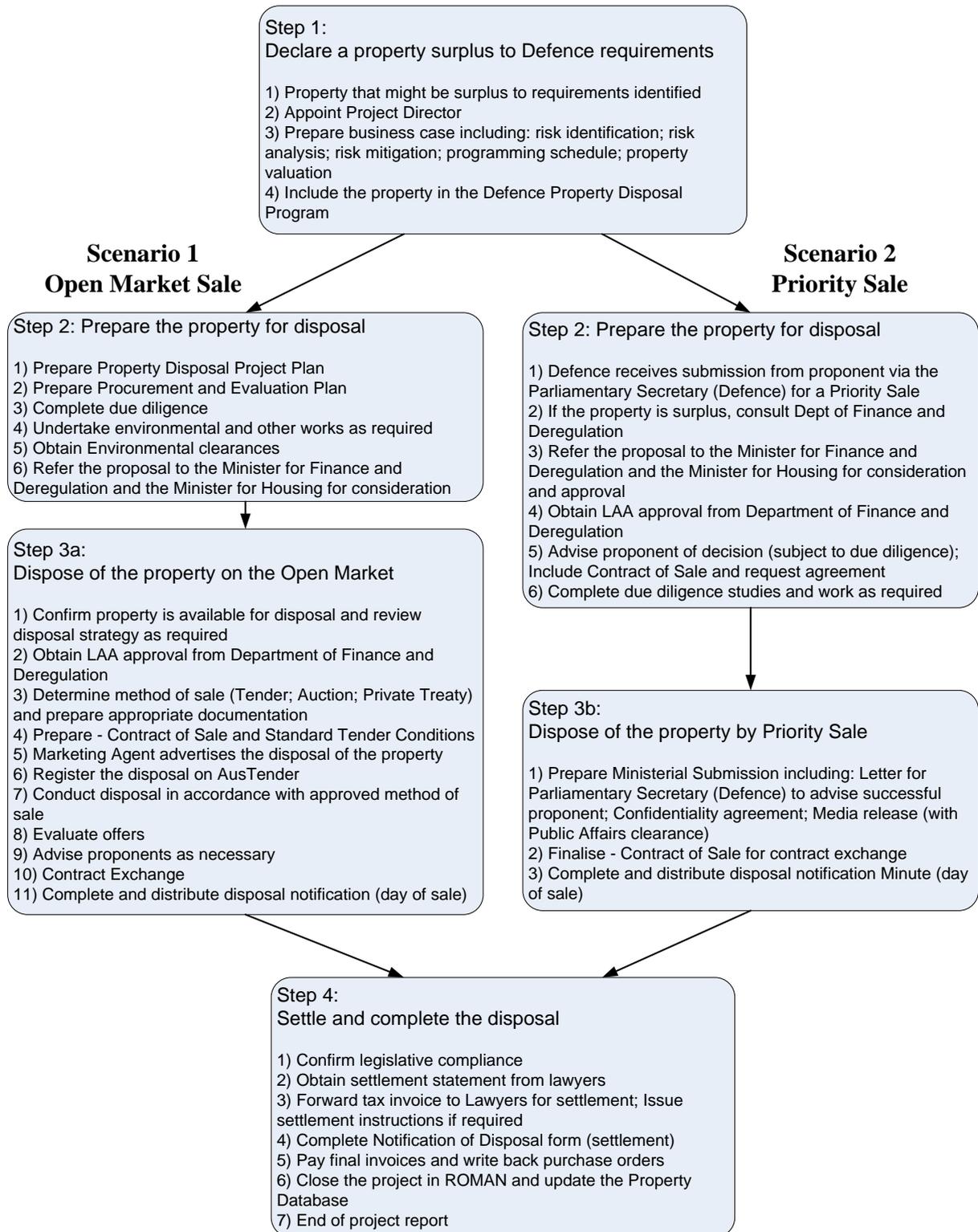


Figure 13: Long-term investments as a percentage of defence budgets (2010).

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CONCLUSIONS

This study provides useful examples in several key areas of defence policy making and defence management.

First, it outlines several alternative ways on defining defence missions. Certainly, the formulation used by a country would be specific to its security environment, major concerns, and ambitions. It has to be adequate to the security environment, acceptable by the society and the international community, consistent with other political and societal objectives, and affordable. Defence leaders have to make sure that defence missions and objectives are translated appropriately into capability requirements and force structure decisions. In that translation many country are guided, and in a way constraint by international, e.g. alliance commitments. At the end, one has to certify that the country's contribution to operations and the actual performance are relevant to stated defence policy objectives.

Second, there are good practices in defence personnel management, in particular in deciding of the size and rank structure, the use of conscripts, and assigning civilians to perform non-essentially military functions. Implementing good practice would increase the efficiency of the defence establishment and the acceptability of personnel policies by the society.

Thirdly, defence expenditures cannot be analysed in a void. The size of the defence budget alone speaks little of the effectiveness and the efficiency of the defence of a particular country. But there are ways to assess to what extent defence is a burden for the economy of the country, whether the defence allocations, versus the force size, allow for development of requisite defence capabilities, as well as whether the structure of the defence budget would provide to longer-term sustainment of the armed forces and their capabilities. Thus, a number of indicators, used in this study, can be used to get a rough estimate on the level of capabilities of the armed forces of the country of interest.

Forth, the report identifies a number of principles and good practices in managing defence procurement and land, that also can be use to benchmark regulations and practices in a particular country and its defence establishment.

This analysis can be used to make a first order judgement of the defence policy, as well as the rules and practices for its implementation, and to identify areas in need of improvement. Follow-up, tailored studies would be needed to identify the reasons behind a less than good performance and to elaborate a strategy, measures, and a roadmap to introduce and institutionalise change so that the defence establishment becomes more effective and efficient while implementing the principles of good governance.