Russian Military Capability in a Ten-Year Perspective - 2013

Jakob Hedenskog and Carolina Vendil Pallin (eds)

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Cover photo: A Russian Army Engenering tank drives near the Baikal Lake in Russia, 17 July 2013, AP Photo/RIA Novosti, Alexei Nikolsky, Presidential Press Service, TT Nyhetsbyrån.

Sammanfattning

Rysslands konventionella militära förmåga har ökat och bedöms fortsätta att öka under den kommande tioårsperioden. Större försvarsutgifter och ökad materielanskaffning kommer att innebära att förbanden blir mer övade och bättre utrustade och beväpnade.

Reformeringen av de Väpnade Styrkorna verkar gå in i en lugnare fas efter några år av omställning, omstrukturering och införande av nya koncept. Under de närmaste åren kommer undervisningsplanen för den militära utbildningen och övningsverksamheten genomgå ytterligare förändringar, övningarna kommer att inkludera nya element och finjusteringar av organisationen kommer att ske.

I ett kortare perspektiv kommer Ryssland inte att ändra målet att ha en miljon man i de Väpnade Styrkorna. I ett längre perspektiv kommer dock demografiska och ekonomiska realiteter att tvinga Försvarsministeriet att revidera personalförsörjningsplanen.

Storleken på Rysslands försvarsbudget kommer troligen att vara mellan 3,5 och 4 procent av BNP och det finns i dagsläget en politisk vilja att behålla denna nivå. Många försvarsindustriföretag är dock ineffektiva och kommer fortsatt att ha problem med att leverera den moderna materiel som de Väpnade Styrkorna efterfrågar.

Trots de många utmaningar som återstår kommer Ryssland att öka sin militära förmåga i termer av beredskap, styrkeprojicering och uthållighet och förbättrad ledning i takt med att ny teknologi används, materiel anskaffas och personalen övas i ökad utsträckning.

Nyckelord: Ryssland, militär förmåga, Väpnade Styrkorna, personal, materiel, övning, flygvapen, luftförsvar, marinstridskrafter, markstridskrafter, kärnvapen, upphandling, strategisk riktning, mobilitet, beredskap, säkerhetspolitik, strategi, doktrin, koncept, försvarspolitik, Putin, Sjojgu, Serdjukov, ekonomi, försvarsutgifter, försvarsbudget, statliga beväpningsprogrammet, statliga försvarsordern, korruption, försvarsindustri, FoU

Abstract

Russian conventional capability has increased and will continue to do so during the coming ten-year period. Increased spending on defence and especially on procurement will mean that units are better trained and better equipped.

Russia's military reform appears to enter a phase of consolidation after a couple of years of upheaval, restructuring, downsizing and the introduction of new concepts. During the next few years the curricula for military education and training will undergo further change, exercises will include new elements and more fine-tuning of the organisation will take place.

In a short-term perspective, Russia will probably not change its nominal goal of 1 million men in the Armed Forces. In a ten-year perspective, however, demographic and economic realities will probably force the MoD to revise its personnel plans downwards.

The future defence budget's share of GDP will probably be between 3.5 and 4 per cent and there is currently a political will to keep it at this level. Many defence industry companies are, however, inefficient and will continue to have problems in spite of this when it comes to delivering the modern weapons that the Armed Forces are demanding. Russia will nevertheless gradually increase its military capability in terms of readiness level, force projection and sustainability. Russia will also continue to develop command and control and gradually procure more modern weapons and equipment.

Key words: Russia, military capability, Armed Forces, personnel, equipment, exercise, air force, air defence, naval forces, ground forces, nuclear weapons, procurement, strategic direction, mobility, readiness, security policy, strategy, doctrine, concept, defence politics, Putin, Shoigu, Serdiukov, economy, defence spending, defence budget, state armament programme, state defence order, corruption, defence industry, R&D

Preface

The Russia Studies Programme (Russian Foreign, Defence and Security Policy, RUFS) and its predecessor at the Swedish Defence Research Agency (FOI) have regularly produced assessments of Russian military capability in a ten-year perspective. This study is the seventh since the first was published in 1999.

Two aspects make this year's assessment different from the earlier ones. First, in 2012 the Ministry of Defence requested another study to be published in 2013, less than two years after the previous assessment. To achieve this, the report needed to be streamlined with more focus on the areas that are most significant for Russia's future military capability. It has not been possible to fit in the chapters on foreign policy, domestic policy, Russian economic development and energy strategy that have appeared in previous editions. These themes are covered by other reports and articles in the RUFS output. Instead, new chapters on defence politics, security policy and military strategic thinking have been added to the study.

Second, the streamlining of the report has led RUFS to do more work on the methodological approach of the report. A reference group was set up consisting of experts on military affairs from FOI, the Swedish Armed Forces HQ and the National Defence College. During the autumn of 2012, the reference group held two seminars on the concept of military capability and how to assess it in a ten-year perspective.

The core research group on this report has consisted of eleven researchers from different fields such as political science, national economics, history, journalism and military affairs. All the experts are experienced analysts on Russia and military affairs and almost all speak Russian. The main authors for the chapters are: Jakob Hedenskog and Fredrik Westerlund (Chapter 1: Introduction), Märta Carlsson, Johan Norberg and Fredrik Westerlund (Chapter 2), Gudrun Persson (Chapter 3), Per Enerud (Chapter 4), Susanne Oxenstierna (Chapter 5), Tomas Malmlöf, Roger Roffey and Carolina Vendil Pallin (Chapter 6), and Carolina Vendil Pallin (Chapter 7: Conclusions). Fredrik Westerlund contributed to Chapter 3 on nuclear and missile defence issues and prepared the tables in Chapter 6. Bengt-Göran Bergstrand contributed to the report with statistical data and graphs. All authors provided material for the concluding chapter. Per Wikström, at FOI's Division for CBRN Defence and Security in Umeå, provided the group with maps.

A number of other people have contributed with their knowledge and expertise for the benefit of the study. First of all we would like to thank our four reviewers: Professor Julian Cooper, University of Birmingham, who read and commented on both the first and the second drafts of the study; Bettina Renz, University of Nottingham; Hanna Smith, Aleksanteri Institute at the University of Helsinki; and Keir Giles, Conflict Studies Research Centre, UK, who all read and commented on the second draft.

We are also very thankful to Sweden's ambassador to Moscow, H.E. Veronika Bard Bringéus, and her embassy staff, who were extremely generous with their time and expertise during our visit in June 2013. Special thanks also go to Defence Attaché Captain (N) Håkan C. Andersson, who organised the programme of visits and accompanied us on some of the meetings in Moscow.

A special thank you to Director Ruslan Pukhov, Vice-Director Konstantin Makienko and their staff at the Centre for Analysis of Strategies and Technologies (CAST) generously shared their expertise with us and organised some of the visits during our Moscow research trip. Special thanks go also to Per Wikström for the maps, to Eve Johansson, who language-edited and copy-edited all the texts for the English version, to Sanna Aronsson, who did the layout of the report, and to Ebba Lundin, who gave the group administrative support during the whole work process. We also pass on our grateful thanks to the reference group collectively.

Stockholm, December 2013
Jakob Hedenskog, deputy research director, programme manager RUFS

Acronyms and Abbreviations[1]

		Note
AFADC	Air Force and Air Defence Command	*Ru. Komandovanie voenno-vozdushnykh sil i protivovozdushnoi oborony*
AIFV	armoured infantry fighting vehicle	
ALCM	air-launched cruise missile	
APC	armoured personnel carrier	
ASD	Aerospace Defence Forces	
ASM	anti-ship missile	
ASW	anti-submarine warfare	
Bde	Brigade	
BMD	infantry combat vehicle (tracked)	*Ru. boevaia mashina desanty*
BMP	infantry combat vehicle (tracked)	*Ru. boevaia mashina pekhoty*
BTR	armoured personnel carrier (wheeled)	*Ru. bronetransporter*
C2	command and control	
C4ISR	command, control, communications, computers, intelligence, surveillance and reconnaissance	
CAST	Centre for Analysis of Strategies and Technologies	*Ru.* Tsentr Analiza Strategii i Tekhnologii (TsAST)
CBRN	chemical, biological, radiological and nuclear	
CIS	Commonwealth of Independent States	
CPI	consumer price index	
CSTO	Collective Security Treaty Organization	
Div	Division	
DOSAAF	Volunteer Society for Cooperation with the Army, Aviation and Fleet	*Ru.* Dobrovolnoe Obshchestvo Sodeistviia Armii, Aviatsii i Flotu
EU	European Union	
EU-27	The 27 member states of the European Union	
FOI	Swedish Defence Research Agency	*Sw.* Totalförsvarets Forskningsinstitut
FSB	Federal Security Service	*Ru.* Federalnaia sluzhba bezopasnost*i*
FSO	Federal Protection Service	*Ru:* Federalnaia sluzhba okhrany
FTP	Federal Target Programme	
GDP	gross domestic product	

[1] This list does not include, for example, names of military procurement projects and companies.

		Note
GOZ	State Defence Order	*Ru. Gosudarstvennyi oboronnyi zakaz*
GPV	State Armament Programme	*Ru. Gosudarstvennaia programma vooruzheniia*
HQ	headquarters	
ICBM	intercontinental ballistic missile	
IFV	infantry fighting vehicle	
IISS	International Institute for Strategic Studies	
JSC	Joint Strategic Command	
km	kilometre	
LMV	light multi-role vehicle	
MD	Military District	*Ru. Voennye Okruga*
ME	military expenditure	
MED	Ministry of Economic Development	*Ru.* Ministerstvo ekonomicheskogo razvitiia
MIRV	multiple independently targetable re-entry vehicle	
MLRS	multiple-launch rocket system	
MoD	Ministry of Defence	*Ru.* Ministerstvo oborony
MoF	Ministry of Finance	*Ru.* Ministerstvo finansov
MRB	Motor Rifle Brigade	
MRD	Motor Rifle Divisions	
MTA	Military Transport Aviation	
NATO	North Atlantic Treaty Organization	
NCO	non-commissioned officer	
NDB	nuclear depth bomb	
NVO	*Nezavisimoe voennoe obozrenie*	
ORBA[T]	Order of battle	
R&D	research and development	
RF	Russian Federation	*Ru.* Rossiiskaia Federatsiia
Rosstat	Federal Statistical Service of the Russian Federation	*Ru.* Federalnaia sluzhba gosudarstvennoi statistiki
RUR	Russian rouble	
SAM	surface-to-air missile	
SIPRI	Stockholm International Peace Research Institute	
SLBM	submarine-launched ballistic missile	

		Note
SLCM	submarine-launched cruise missile	
SOCOM	Special Operations Command	
SRAM	short-range attack missile	
SSBN	strategic nuclear-powered ballistic missile submarine	
SSGN	nuclear-powered cruise-missile submarine	
SSM	surface-to-surface missile	
SSN	nuclear-powered attack submarine	
SVR	Foreign Intelligence Service	*Ru.* Sluzhba vneshnei razvedki
TB	tank brigade	
TD	tank division	
UAV	unmanned aerial vehicle	
USD	United States dollar	
VKO	Aerospace Defence Forces	*Ru.* Voiska Vozdushno-kosmicheskoi Oborony
VPK	*Voenno-promyshlennyi kurer*	

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1. Introduction

Jakob Hedenskog and Fredrik Westerlund

The Russian Zapad-2013 (West-2013) military exercise in September 2013 raised a renewed interest in the development of Russia's military capability. Newspaper headlines around the world speculated as to whether this was the start of a second Cold War and there was considerable confusion as to how large the exercise actually was. Did it involve just over 20 000 or up to 70 000 men? Another incident that attracted considerable attention from the media was the repeated exercises involving medium-range bombers with fighter aircraft top-cover in the Baltic Sea area. Catchy headlines must, however, be interpreted with caution, and the number of men and equipment in an exercise will in fact only provide part of the picture. This study attempts to delve deeper into the question of how Russian military capability has evolved since the last assessment in 2011 and the conditions for its development in a ten-year perspective.

1.1 Purpose and outline of the study

In this report, military capability denotes the ability to generate assets for fighting power in regular warfare. Our definition is further detailed and discussed below in section 1.3 on the concept of military capability. The assessment of future Russian military capability is made on the basis of the assessed regular warfare capability in 2013, and of analyses of the societal preconditions for generating military capability in a ten-year perspective.

Main research questions

The two main research questions in this study have thus been: what military capability for regular warfare does Russia possess in 2013? and what are the societal preconditions for generating military capability in the ten-year perspective? Social phenomena affect military capability, as any armed force is a reflection of its society. We propose that for Russia the most important preconditions are security and defence policy, demographic trends and defence spending as well as domestic defence industrial capacity. Security policy is a wide topic, which is why we have chosen to focus on national threat assessment and the view on future wars. These are two areas of security policy that arguably influence future military capability. Based on the results of exploring these research questions, we have made an effort to answer the overall research question in this study: what military capability will Russia have for regular warfare over the coming ten years?

The military capability of Russia's Armed Forces in 2013

The outline of the study follows from the research questions, starting with Russian military capability in 2013. In Chapter 2, Märta Carlsson, Johan Norberg and Fredrik Westerlund discuss the equipment holdings and force structure of the Armed Forces as well as issues of personnel, logistics and Rear Services. The force disposition and strategic mobility – both vital aspects for a country covering nine time zones and facing both Asia and Europe – are

then considered, followed by a discussion of the character of Russian military exercises. Thereafter, the authors assess Russia's military capability for regular warfare as of 2013 in four different strategic directions. Finally, the implications for military capability in a ten-year perspective are discussed.

Security policy and military strategic thinking

The aim of Chapter 3, by Gudrun Persson, is to analyse the current Russian security policy thinking at the strategic level. First, the Russian official threat assessment is examined. In particular, the current situation in the North Caucasus and NATO's missile defence are treated. Second, in view of the very broad definition of the Russian Security Concept, a few aspects of Russian security policy in practice are examined. Domestic, military, and foreign security policies are all vital elements when estimating military capability in a long-term perspective. The section of the chapter on domestic security analyses the policy of patriotism. The section on foreign security is devoted to the new Foreign Policy Concept. In the section on military security, attention is given to the strategic policy of nuclear and non-nuclear deterrence, and the view of future war.

Defence politics

The focus in Chapter 4, by Per Enerud, is on the consequences of the political changes that took place during 2012–2013 for the military reform, first and foremost the change of minister of defence and chief of the General Staff. The chapter deals with three key areas of reform – the visions for a new organisation, the personnel issue and the equipment of Russia's Armed Forces – from a political perspective, with a contextual approach to describe how the reform fits into a general political public discourse in Russia. Those three areas are of paramount significance for creating military capacity in a long-term perspective.

Defence spending

The purpose of Chapter 5, by Susanne Oxenstierna, is to describe and analyse the recent development of the Russian defence budget and total military spending and assess the expected developments over the period 2013–2023. The chapter analyses the main factors behind the development of Russia's defence spending, starting with the development of the Russian economy, which is regarded as the main determinant of the future size of spending on defence. The defence budget and total military spending are analysed as well as the development of personnel costs. The execution of the State Armament Programme (GPV) up to 2020 and the State Defence Order (GOZ) are also discussed since their performance affects the efficiency of spending.

Defence industry

Chapter 6, by Tomas Malmlöf, Roger Roffey and Carolina Vendil Pallin, looks more closely at the degree to which the Russian defence industry, i.e. the supply side of the Russian military-industrial complex, is up to the task of enhancing the country's military capability. The chapter focuses on industrial organisation; labour capital and production technologies; research, development and defence system technology; defence deliveries to the Armed Forces; arms trade; and industrial cooperation. It provides an assessment of the Russian defence industry's contribution to Russian military capability as a supplier of defence materiel up to 2023.

In the final chapter, Chapter 7, Carolina Vendil Pallin brings together the results from the preceding chapters in an effort to assess Russian military capability in a ten-year perspective. First, the implications of Russian security and defence policy issues are discussed, including threat assessment, the view of future wars and the military-strategic context. Thereafter Vendil Pallin addresses the issues of the future organisation and personnel as well as the weapons and equipment of the Russian Armed Forces. The implications for future readiness, strategic mobility and logistics are also discussed, before the chapter draws conclusions on Russian military capability over the coming ten years.

1.2 Delimitations

As this report focuses on assessing Russian military capability in a ten-year perspective, the discussion in the chapters on security policy, defence politics, defence spending and defence industry capacity is limited to aspects that have a bearing on this. For instance, other aspects of security policy and the defence industry as such have been left out or touched upon only briefly. Likewise, the Russian economy in general is not discussed in detail here, but is the topic of other FOI reports.[2]

Furthermore, the assessment of military capability is restricted to the ability to generate assets for regular warfare. This means that several aspects of Russian military capability have not been addressed here. For instance, Russia's capability to carry out peace operations and irregular warfare is not assessed. Russian cyber warfare capabilities, although of growing importance, are also not discussed in this report. Neither is the capability for large-scale, unlimited warfare, save for the discussion of strategic deterrence. In contrast to previous reports on Russian military capability in a ten-year perspective, we have excluded Russia's defensive capability as regards chemical and biological weapons. The available new information on these matters is not deemed adequate to make a significant contribution to the assessment of Russian military capability in this study.

The focus on the ability to generate assets means that our assessment of Russian military capability does not include actual combat capability, i.e. how well Russian forces could perform a particular mission in a particular environment against a particular adversary. Moreover, the assessment only includes forces belonging to the Ministry of Defence (MoD). Forces belonging to other ministries are not taken into account. Likewise, the military capabilities of Russia's allies are not assessed, but are considered as factors making up the perceived military-strategic context. Furthermore, no comparison with other countries' military capability is made in this report.

Last but not least, specific Russian intentions for the actual use of military power are not assessed. We analyse the general political will in Russia regarding when and how to use military force, as this is an important precondition for building future military capability, but do not consider possible actual plans for war

[2] See, for instance, Cooper, Julian (2013) Russian Military Expenditure: Data, Analysis and Issues, FOI-R--3688--SE, September 2013.

against any specific country. Furthermore, the probability of an armed conflict involving Russia is not assessed in this study.

For most of the chapters, the collection of material ended in early September. In Chapter 2, an exception has been made for the Zapad-2013 exercise, which was carried out in late September.

1.3 On the concept of military capability

As stated above, military capability in this report denotes the ability to generate assets for fighting power in regular warfare. We do not aspire to assess the actual fighting power of the Russian Armed Forces, as this entails considering external factors such as the specific environment, the opponent(s), allies and other contextual elements (UK Ministry of Defence 2011: 4–1). We have chosen to focus on regular warfare as this has been and still is the main military task in interstate conflicts. Our aim is to make a qualitative assessment of the Russian military force resources available in time and space for regular warfare operations.

Capability for high- to medium-intensive regular warfare

In the study, we have focused on two common aspects of regular warfare. The first aspect is the capability to conduct high- to medium-intensive regular warfare in limited wars with conventional as well as nuclear weapons. Limited wars here denote local wars – such as that with Georgia in 2008 – and regional wars, e.g. with China or NATO (on these concepts in the Russian Military Doctrine, see Chapter 3, section 3.3.3). We study this aspect in two particular respects: the ability to seize or hold territory, complemented with the capacity for stand-off warfare. By stand-off warfare we mean the capability to fight enemy targets at distances of over 300 kilometres, i.e. beyond the operational depth of a group of armies' operation to seize or hold territory.[3]

We assess the capability for high- to medium-intensive regular warfare in limited wars separately in four main military-strategic directions: the Eastern strategic direction covering Asia-Pacific region; the Central Asian strategic direction covering Central Asia; the Southern strategic direction covering the Caucasus and the wider Middle East; and the Western strategic direction covering Europe. These roughly correspond to the four Russian Military Districts (*voennye okruga*). Our definition of a strategic direction is related to Russian concepts of strategic directions, emphasising a territory – with air, sea and land dimensions and strategically important objects – that can be used to conduct military operations with groups of forces (Ministry of Defence, Vol. VII 2003: 672). A group of forces (*gruppirovka voisk (sil)*) may include reinforcements from other directions (Ministry of Defence, Vol. II 1994: 524), and for this reason we have chosen to base the assessment on the strategic directions rather than on the Military Districts (MDs).

[3] The Russian *Military Encyclopaedia* discusses the notion of operations with a group of armies. Despite referring not only to Russian but also to Western experience, we have seen this as appropriate since Russia's Military Districts have Combined Arms Armies as their main Ground Forces units. A recurring notion in the encyclopaedia is an operational depth of some 300 km (Ministry of Defence, Vol. VI 2002: 77–79).

The basis of capability in a strategic direction is the forces belonging to the MD in question. To this may be added the Armed Forces' strategic resources and forces from other MDs. In order to assess capability in a particular strategic direction, the available forces of the entire Armed Forces need to be described. Furthermore, the military-strategic context in all strategic directions also needs to be considered, as this affects the volume of forces that can be reassigned to other Military Districts. Finally, the strategic transport capacity needs to be described as it decides how fast additional resources can be deployed to a particular strategic direction.

Capability for strategic deterrence

The second aspect of regular warfare is the capability for strategic deterrence. This is the military prevention of large-scale wars, but also regional and possibly even local wars (Sheehan 2010: 177–179). Strategic deterrence operates on the global and inter-regional level, and capability is therefore assessed for the Russian Federation as a whole. Russian strategic deterrence rests on its capability with strategic nuclear weapons as well as with sub-strategic nuclear weapons and conventional weapons. The latter's contribution to strategic deterrence is assessed on the basis of the available conventional and sub-strategic nuclear force assets for high- to medium-intensive limited warfare in the four strategic directions and for stand-off warfare in one strategic direction.

1.4 Sources

The assessment is based on open sources. Our ambition is always to use Russian primary source material, such as official Russian documents, government and agency information and statements of Russian officials. Russian scholarly publications, periodicals and news media reports have also been employed. Discussions with Russian scholars and representatives of Russian institutions have been an important part of the research, in order to increase the relevance and reliability of our assessments. Our methodology has therefore implied a significant share of original research, not least since the study concerns the present and the future, and scholarly works are often published with considerable delay. In original research, the reliability of the sources is a vital issue. Also in this regard, we have sought to reduce uncertainty by comparing different sources.

No single source on equipment holdings and the organisation of Russia's Armed Forces is both verifiable and detailed enough to be useful in assessing military capability. In the study we have combined the strengths of different sources. An overall shortcoming is that not all sources specify where they in turn got their information from. Where the organisation of the Armed Forces is concerned, the sources converge somewhat after 2011 when the new organisation had settled down. The reorganisation of the Armed Forces in 2009–2010 led to different sources listing different numbers of units depending on when during the reorganisation process the figures were collected. Pre-2010 figures are also distorted by units being reshuffled as six Military Districts were merged into four in mid-2010. From 2011 the figures probably better reflect the new organisation.

Official Russian information (primarily the MoD website) gives too general a view of the organisation, personnel and equipment holdings of the services and branches. Despite giving more detail on both organisation and equipment, the annual *The Military Balance* published by the International Institute for Strategic Studies (IISS) has shortcomings for the period covered. It lists the number of units in the different MDs, but not locations. Figures for equipment holdings, e.g. for the Ground Forces, which are identical from one year to the next indicate that holdings either have not changed at all – which is unlikely since some small deliveries have actually taken place – or have simply been rolled forward from one year to the next. One of its strengths is that *The Military Balance* separates equipment that is actually used from equipment in store for the Ground Forces and assesses the share of combat-capable aircraft. In May 2013, Russian experts interviewed in Moscow noted that *The Military Balance* figures were exaggerated. Military Periscope (a commercial database updated on 1 October 2011) outlines organisation and locations, but is almost identical to *The Military Balance* for equipment holdings. More recent is the Russian Valdai International Discussion Forum (2012: 22) which lists brigades in the Ground Forces in each MD, but not their locations. Air Force and Navy units are not listed at all. The unofficial website warfare.be gives a good deal of detail, but cannot be verified with official figures. The assessments of number of units and numerical strengths in an MD are based in this report on a combination of *The Military Balance*, Military Periscope and warfare.be. The information on the MDs' organisation is based on the two latter.

1.5 The work process

The work behind this report, from planning to the final report, involved a process that took more than a year (see Table 1.1). Planning started at a project workshop in September 2012, where the outline for the study and a draft schedule for the work with the reference group were presented. During another project workshop, in February 2013, the authors presented abstracts for each chapter. The first drafts of all chapters were internally reviewed at seminars in April 2013. During those seminars, as part of an extended study visit at FOI, Professor Julian Cooper participated in the reviewing process and read all the chapters.

In June 2013, six researchers from the group made a research trip to Moscow to meet with Russian experts according to programme arranged by the Defence Department at the Swedish Embassy in Moscow and the Centre for Analysis of Strategies and Technologies (CAST) (see Table 1.2).

In September 2013, the final drafts of the chapters were reviewed during a two-day review seminar series with external experts in order to secure the quality of the product. Publishing the report, for the first time, simultaneously in English and Swedish, in identical versions, made it possible to engage reviewers other than Swedish-speakers. Chapter 2, on military capability in 2013, was reviewed by Keir Giles, Conflict Studies Research Centre, U.K. Chapter 3, on security policy and military strategic thinking, was reviewed by Hanna Smith, Aleksanteri

Table 1.1 Work process of the study

Date	Activity
14 September 2012	Project workshop. First draft of outline of the study. First draft of work of the reference group on military capability
16 October 2012	1st seminar of the Reference group on military capability
18 December 2012	2nd seminar of the Reference group on military capability
5 February 2013	Project workshop. Presentations of abstracts of all chapters
8–18 April 2013	Internal review of first drafts of the chapters
3–7 June 2013	Research trip to Moscow. Meetings with Russian experts
4–5 September 2013	Review seminars of all chapters with external reviewers
20 September 2013	Internal review of introduction and conclusion chapters
23 September 2013	Final chapters to editors
October 2013	Editing, translation to Swedish of the report
November 2013	Layout, approval of the report
December 2013	Publication. Study presented to the Ministry of Defence

Institute, University of Helsinki, Finland. Chapter 4, on defence politics, was reviewed by Bettina Renz, University of Nottingham, UK. Professor Julian Cooper acted as examiner for Chapter 5 on defence spending and Chapter 6 on the defence industry.

After the seminar series, the authors revised their chapters again and the Introduction and Conclusions were reviewed separately. All texts were edited by Jakob Hedenskog and Carolina Vendil Pallin. The English texts were also language-edited and copy-edited by Eve Johansson, UK, and translated into Swedish by the authors, before final layout and approval of the report.

Table 1.2 Institutions visited in Moscow, 3–7 June 2013

Institution	Topics
Embassy of Sweden	Domestic affairs, defence spending, military reform
Federal Assembly, the Council of Federation	Defence and security issues
Russian Academy of Science/Social-economic Institute	Russian economy, social issues
Natsionalnaia oborona	Military reform
Moscow Carnegie Center	Foreign and domestic policy
Gaidar Institute	Defence spending, military reform
Moscow School of Higher Economics	Domestic affairs
Center for Strategic Trends Studies	Domestic affairs, military reform
Nezavisimoe Voennoe Obozrenie	Military reform
Yezhednevnii Zhurnal	Foreign policy
IA Center	Military reform
Institute for Political and Military Analysis	Foreign policy
Centre for Analysis of Strategies and Technologies (CAST)	Defence industry, defence economics, military reform
Vedomosti	Military reform
Russia in Global Affairs	Foreign policy

FOI's Russia Studies Programme has long experience and the advantages of continuity in assessing Russia's military capability in a ten-year perspective. All the researchers but two in the group have participated in at least one earlier assessment and four have participated in four previous assessments or more. One change from previous reports in the series on Russian military capability is that this one starts from a more solid ground in describing the current capability of the Armed Forces today – in this report for the year 2013 – which is then used as a basis for the assessment of military capability in ten-year perspective.

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2. The Military Capability of Russia's Armed Forces in 2013

Märta Carlsson, Johan Norberg and Fredrik Westerlund

Since 2008 the Russian Armed Forces have been going through a large-scale reform programme with the purpose of improving their military capability, especially in terms of readiness and availability. The first years of sweeping changes, such as reorganisation and personnel cuts, have been followed by a period of consolidation and, as of autumn 2013, adjustments are being made, such as testing new structures and adapting the Air Force's new organisation. The political leadership's ambitions regarding the Armed Forces, as seen through a will to retain the increased defence spending that has accompanied the reorganisation process, remain high and have started to materialise in terms of gradually increasing military capability.

The aim of this chapter is to assess Russia's military capability as of 2013. This will be done by describing and analysing the structures and nominal strengths of the Armed Forces and selected factors that influence military capability. This assessment will in turn constitute a basis for assessing Russia's military capability in a ten-year perspective in Chapter 7.

Research question

What is Russia's military capability today? This overall research question is divided into two sub-questions emanating from this report's definition of military capability (see Chapter 1, section 1.3). First, what is the capability of the Armed Forces to wage high- to medium-intensive regular warfare in limited wars, i.e. local and regional wars? Second, what is the Armed Forces' capability for strategic deterrence? As regards limited wars, there are two main missions: first, to seize and hold territory and, second, the ability for stand-off operations, with both sub-strategic nuclear and conventional warheads. The description and analysis of Armed Forces focuses on factors relevant for the definition of military capability used in this study and does not aspire to cover every aspect of the Armed Forces.

Outline of the chapter

To create a basis for assessing Russia's military capability in 2013, section 2.1, Force structure, will describe and analyse the Armed Forces in 2013 in terms of the organisation and numerical strengths of the branches and arms of service of the Armed Forces (only the Ministry of Defence, not from other ministries). Russia's nuclear forces cut across all branches of service and are described separately. The assessment base is widened in section 2.2 with outlines and discussions of personnel issues as well as the Logistics and Rear Services. Section 2.3 outlines the principal aspects of force disposition and mobility of relevance to Russia. Section 2.4 discusses military exercises. The frequency, scale and scope of military exercises are crucial in forming military capability. A force is likely to be able to perform in war what it has performed on exercise. The more a force exercises, the better it gets. Based on this, section 2.5 outlines the

relevant assets in each Military District (MD) and discusses Russia's current military capability in four strategic directions (east, Central Asia, south and west). Finally, section 2.6 draws conclusions about Russia's military capability in 2013 and implications for the coming ten-year period.

First, however, some remarks on terminology and method are needed. The notion 'modern equipment' is frequently used in Russian sources. It seems to be a policy-based notion that lacks a clear and widely used definition. Some see it as meaning equipment that is newly (i.e. within the last ten years) manufactured or modernised, even if it is a Soviet-era platform or system. Major General Yevgeni Ilyin, deputy head of the Ministry of Defence's Main Directorate for International Military Cooperation, stated in Stockholm on 14 March 2013 that 'modern' referred to certain generations of systems. In his view, for example, T-80 tanks (and their successors) were modern irrespective of when they were produced. The adjective 'modern' is used here with the above comments in mind.

To get a quantitative indication of exercise activities, FOI set up a computer program to find and process newspaper articles about exercises for naval ships from the Northern and Baltic Fleets, for selected Airborne Forces units and for Ground Forces units in the Western Military District. The period covered was 2010–2012, i.e. from when the reorganisation had had time to settle down. The source used was the website of *Krasnaia zvezda*, the official newspaper of Russia's Armed Forces.

2.1 Force structure

At the top of Russia's military pyramid, the president is the supreme commander in chief and is supported by the minister of defence and the Ministry of Defence (MoD). The General Staff in Russia is a part of the Ministry of Defence. The chief of the General Staff leads and coordinates operations mainly through its Main Directorate for Operations. Building and maintaining forces, generating military capability, is the responsibility of the commands of each respective branch or arm of service (Carlsson 2012: 32–35).

Four regional Joint Strategic Commands

Operations are commanded by four regional Joint Strategic Commands (JSCs). A JSC is located in each of Russia's four MDs. The four MDs/JSCs seem to combine both the task of commanding operations and managing mobilisation of reserves, which still seems to be planned for, although the extent to which it will be used is unclear. The structure of the MDs/JSCs is likely to correspond to Russian assessments about future threats and potential theatres of war. The JSCs are intended to command forces from all branches and arms of service (with exceptions such as strategic nuclear weapons) in each MD, i.e. commanding joint inter-service operations. This requires the formation of permanent joint command and control functions and the establishment of standing forces from different branches and arms of service on strategic and operational levels. Despite the extensive publicity they were given at the time they were formed, little has since emerged about the JSC's organizational structure and how they would support its commander in charge of operations (Barabanov et al. 2012: 10–11;

McDermott 2013a: 27–30). Forces from all branches and arms of service and non-MoD forces as well participate in Russia's annual strategic exercises, which at least creates good opportunities to develop, test and evaluate command of joint operations.

2.1.1 Branches and arms of service

Russia's Armed Forces (V*ooruzhennye Sily*) have three branches of service (*vidy vooruzhennykh sil*): the Ground Forces, the Navy and the Air Force. Each of these in turn consists of arms of service (*rod voisk*) such as infantry and artillery etc. in the Ground Forces. There are also independent arms of service directly under the General Staff: the Strategic Missile Forces, the Aerospace Defence Forces and the Airborne Forces.

The Ground Forces

The Ground Forces (*Sukhoputnye voiska*) are the biggest service branch and have eight arms of service: infantry (motor rifle), tanks, artillery and rocket troops, engineers, signals, reconnaissance, air defence and CBRN (chemical, biological, radiological, nuclear) protection (Ministry of Defence 2013e). In mid-2013, the permanent readiness, i.e. standing, organisation included, nominally, 285 000 service personnel, including conscripts (IISS 2013: 226). As Table 2.1 shows, it consisted of seventy-nine standing brigades out of which thirty-eight were manoeuvre brigades – motor rifle and tank brigades able to seize and hold territory – and the rest support brigades. There was also equipment for up to fourteen manoeuvre brigades and support units in so-called storage and repair bases. The exact number is unclear (McDermott 2013a: 66–67). A higher assessment, 104 brigades (Forss et al. 2013: 70), included data from before the 2009 reorganisation, i.e. it included some units that were later disbanded. Russia has four military bases abroad, all the equivalent of reinforced brigades. The Southern MD commands three (4th North Ossetia, 7th Abkhazia and 102nd Armenia) and the Central MD one (201st Tajikistan).

Hardware for manoeuvre units still dates predominantly from Soviet times. According to *The Military Balance*, Russia in 2012 had 2 800 tanks, 18 260 infantry fighting vehicles (IFVs, including armoured personnel carriers [APCs] and reconnaissance vehicles) and 5 436 artillery pieces in active use. Some 18 000 tanks, 15 500 IFVs and 21 695 artillery pieces were in storage (IISS 2013: 226–227). Russian analysts and journalists have noted that the *Military Balance* figures were too high (interviews, Moscow 2013). Figures for the Ground Forces' hardware in 2012 seem to have been rolled over from the previous years (IISS 2011: 184; IISS 2013: 226–227).

Much equipment is old, but it can still be used to fight with. Even half of today's nominal equipment holdings would be enough for an organisation of some fifty-five manoeuvre brigades (forty standing; fifteen in storage) with some estimated 6 650 IFVs and 2 550 tanks (Vendil Pallin 2012: 325), i.e. roughly the same as today's military organisation. The difference (12 000+ IFVs, 15 000+ tanks, 16 000+ artillery pieces) could be used for a mobilisation organisation. The principles according to which mobilised reserves would be organised and

Table 2.1 Possible distribution of Ground Forces brigades and divisions* in the Military Districts

Military District	Eastern	Central	South	West
Combined-arms armies	4	2	2	2
Brigades				
Motor rifle brigades (MRBs)	11	7	9	6**
Motor rifle divisions (MRDs)	1			1
Tank brigades (TBs)	1	1		1
Tank divisions (TDs)				1
Artillery brigades	3	2	1	3
Rocket artillery brigades	1	1	1	1
Surface-to-surface missile brigades	2	2	1	2
Air defence brigades ***	3	3	1	3
Airborne brigades	2		1	
Special Forces brigades	1	2	2	2
Total number of standing brigades in each MD	25	18	16	20
Total number of standing brigades in the RF				**79**
MRB equipment store	8	3		2
TB equipment store				1
Total number of manoeuvre brigade stores in each MD	8	3	0	3
Total number of manoeuvre brigade stores in the RF				**14**
Grand total of brigades (equipped, not necessarily manned)				**93**

* Until further official information emerges, divisions are counted as brigade equivalents.
** Including one MRB in Kaliningrad under Baltic Fleet command.
*** Denotes Ground Forces' air defence, to be distinguished from theatre missile defence.

equipped were still under development in 2013 (interviews, Moscow, 2013), indicating that a fully functioning reserve organisation remains to be formed.

In May 2013, the Russian MoD announced that two brigades, the 5th Motor Rifle and 4th Tank Brigades, in the Western MD would regain division status (Ministry of Defence 2013b), seemingly going against the previous transition from divisions to brigades that aimed to trade mobilised quantity for a leaner force with higher quality and readiness. A military weekly quoted MoD sources as saying that a new division would have at most 6 000 men and three regiments (two motor rifle and one tank), but would not have its own air defence and artillery assets, which were to be provided by the regiments' own support units (*Nezavisimoe voennoe obozrenie* 2013). This seems like the merging of the manoeuvre and support units of two brigades into a three-regiment division. So far, little suggests that divisions are to replace brigades as the basic unit in the Ground Forces.

The Air Force including Air Defence Forces

The nominally 150 000-men-strong (IISS 2013: 230) Air Force (*Voenno-vozdushnye sily*) consists of the Air Force Main Command, two functional commands (Long-Range Aviation and Transport Aviation Commands) and four

territorial Air Force and Air Defence Commands (AFADCs – *Komandovaniia voenno-vozdushnykh sil i protivovozdushnoi oborony*), one in each MD (IISS 2013: 231–234).

The basic unit is a major air base in each MD with Air Groups (*aviagruppy*), i.e. airfields with unified command over both flying squadrons and ground support units spread across the MD. The AFADCs command air operations and the Air Force Main Command manages training and acquisition. Results of exercises in 2013 prompted Defence Minister Sergei Shoigu to note that the Air Force was concentrated in too few locations, which impeded operations, indicating that further reorganisation was possible (Tikhonov 2013b).

The Air Defence Forces consisted of forty-five surface-to-air missile (SAM) regiments and eighteen radar regiments organised into some thirteen Theatre Air Defence brigades[4]. In September 2013, sources differ on the structure and locations of these brigades, indicating continuous organisational changes. The Army Aviation is subordinated to the AFADCs. In 2011, eight Army Aviation bases with some sixty helicopters in each were created and plans were announced to increase the number to between fourteen and sixteen (Barabanov and Frolov 2012a).

Open sources diverge on the number of military aircraft. There are small but regular deliveries of new and modernised aircraft. The predominantly Soviet-era aircraft fleet is reaching the end of its service life. Some 1 460 aircraft were combat-capable in 2012, down from some 1 600 in 2010 (IISS 2013: 230; IISS 2011: 187). The ambition is clearly to replace ageing aircraft, and many orders have been placed (see Chapter 6 on the defence industry, Table 6.3).

Table 2.2 Estimated numbers of military aircraft and helicopters in the Russian Federation (RF) in 2012

Aircraft type	Western	Southern	Eastern	Central	All MDs	Sum RF*
Fighter	200	100	110	75	485	660
Fighter ground attack	80	80	90	30	280	320
Attack	10	110	70	10	200	210
Transport	25	10	25	25	85	280**
Attack helicopters	70	60	60	40	230	400***
Transport helicopters	80	90	70	40	280	500***

Source: Based on an average of The Military Balance 2013 and warfare.be.
* Both warfare.be and The Military Balance give total numbers that are higher than they would be if aircraft listed for the MDs are added together.
** Likely also to include aircraft of the Military Transport Aviation.
*** In the case of transport helicopters, a number for the Russian Federation as a whole that is greater than the total for all MDs could be explained by helicopters being used by other forces, but in the case of attack helicopters the difference is inexplicable.

[4] These are sometimes called VKO brigades, which is misleading since the VKO (*Vozdushno-kosmicheskaia oborona*, Aerospace Defence Forces) is now an independent arm of service outside the Air Force.

Aircraft are mobile and the figures on their disposition across Russia given in Table 2.2 is an approximation. They are also the assets that theoretically can redeploy most quickly between strategic directions. Where military capability is concerned, the limitation will then be the receiving units' capability to host aircraft and sustain them in operations. There are aircraft for both air defence and support of ground operations in all MDs. Russia has some 100 heavy transport aircraft (twelve An-124s; six An-22s; eighty Il-76s), which are important for airborne operations (IISS 2013: 230; Barabanov and Frolov 2012b). Abroad, Russia's limited air assets in Armenia, Kyrgyzstan and Tajikistan give it initial air capability in these regions. Russia is also likely to be able to deploy aircraft to Belarus.

As for the medium-range bomber fleet, there are some 105 Tu-22M3s in the Air Force according to *The Military Balance* (IISS 2013: 230). Other sources put the total number at 104 aircraft (Sutyagin 2012: Appendix 1), of which seventy-one are deployed in the Western MD and thirty-three in the Central MD, and at the considerably higher 150 Tu-22M3s (SIPRI 2013: 294). It should be noted that some of the aircraft are of the Tu-22MR reconnaissance version. The other aircraft of the Long-Range Aviation are discussed in section 2.1.2 on the nuclear forces.

The Navy

The task of the Navy (*Voenno-Morskoi Flot*) is to employ conventional and strategic resources to prevent the use of military force against Russia, to defend the sovereignty of the country, to guarantee the security of Russian economic activities on the world oceans and to participate in peacekeeping operations. Most probably the Navy has great difficulties in fulfilling these tasks because it does not have enough of certain vessels. Another reason is low levels of funding in the past, which have affected maintenance, refurbishment and acquisition (Kramnik 2011; Carlsson and Norberg 2012: 116).

The Navy, with nominally 130 000 servicemen, consists of four fleets and one flotilla: the Baltic Fleet with its headquarters in Baltiisk outside Kaliningrad, the Northern Fleet with headquarters in Severomorsk close to Murmansk, the Black Sea Fleet with headquarters in Sevastopol, the Pacific Fleet with headquarters in Vladivostok and the Caspian Sea Flotilla with headquarters in Astrakhan. In addition, there is the Naval Aviation, the Naval Infantry and the Coastal Defence Troops (IISS 2013: 227–229).

The priorities of the Navy are the Northern and Pacific Fleets, with their strategic submarines. The Northern Fleet is probably primarily occupied with upholding and protecting the naval component of the nuclear triad since a major ground invasion from the north appears unlikely. Another important task is to uphold Russian interests in the Arctic. The Pacific Fleet also focuses on the nuclear component, as well as on protecting and defending the naval installations in and around Vladivostok and Petropavlovsk. The Black Sea Fleet, the Baltic Fleet and the Caspian Flotilla do not possess strategic submarines and their main task is defending and protecting the mainland.

Table 2.3 Selected operational Navy vessels 2012–2013

Type of vessel	Pacific Fleet	Black Sea Fleet	Caspian Sea Flotilla	Northern Fleet	Baltic Fleet	Total
Strategic submarines (SSBNs)		-	-		-	? (*c.* 13)
Delta III	2 (4)			-		
Delta IV	-			4 (6)		
Borei	-			0 (1)		
Nuclear-powered cruise-missile submarines (SSGNs)		-	-		-	4–5 (9)
Oscar I and II	3 (6)					
Oscar II				1–2 (3)		
Nuclear-powered attack submarines (SSNs)		-	-		-	10–13 (20)
Sierra I	-			2 (2)		
Sierra II	-			2 (2)		
Akula	2–3 (6)			4 (6)		
Victor III	-			2 (4)		
Diesel-electric submarines (SSK)			-			*c.* 19 (24)
Kilo	? (*c.* 9)	? (1)		? (7)	? (1)	
Aircraft carriers	-	-	-		-	
Kuznetov				0 (1)		0 (1)
Cruisers and destroyers		n/a	-		-	17 (23)
Slava (C)	1 (1)			1 (1)		
Kirov (C)	-			1 (1)		
Udaloi (D)	4 (4)			2 (4)		
Sovremennyi (D)	1 (4)			2 (2)		
Frigates	? (9)	n/a	n/a	n/a	2 (4)	
Corvettes	? (26)	n/a	n/a	n/a	n/a	
Large landing ships	? (4)	n/a	n/a	n/a	n/a	

Note: The table shows the number of operational vessels and the total number of vessels in brackets. It does not cover the entire Navy, since information is scarce. The table is compiled from different sources, which means that the total number of vessels does not necessarily add up. Many submarines are not in service due to refurbishment (six) or are transferred to the reserve (one), while some of the first-rank vessels are being overhauled (two) or transferred to the reserve (four). 'n/a' means information not available. '?' means that the number of vessels is correct but the number in operation is unknown.

Sources: Boltenkov 2013: 25; Kristensen and Norris 2012: 72; Makienko 2012; and Samsonov 2012. The FOI computer-based newspaper article search also mapped operational vessels belonging to the Northern and Baltic fleets during 2012 and the first six months of 2013.

The Northern and Pacific Fleets have, besides strategic submarines, other types of submarines such as nuclear-powered guided-missile submarines, nuclear-powered attack submarines and diesel-electric submarines. The Baltic and the Black Sea Fleets only have diesel-electric submarines; the condition of the vessels belonging to the latter fleet can be highly disputed. The Caspian Flotilla has no submarines (Saunders 2010).

The main surface vessels of the Northern and Pacific Fleets are destroyers and frigates. These are larger ships intended for independent missions in blue waters. The Baltic and Black Sea Fleets depend on frigates and corvettes, the former more on corvettes. They are mainly destined for operations in the littoral sea zone. Finally, the Caspian Flotilla fleet consist of mine warfare and amphibious ships, restricted to inland sea operations (ibid.).

Reliable information about the number of ships in operation is not available. FOI has therefore made a compilation below of some of the figures available in the Russian media.

The Airborne Forces

The Airborne Forces (*Vozdushno-desantnye voiska*, VDV) are designed for airborne landings and combat operations in enemy rear areas. This arm of service is primarily a tool for the supreme commander (Ministry of Defence 2013d) and is only subordinated to the MDs/JSCs in certain respects (Litovkin 2012a). Its units are the core of the Collective Security Treaty Organization (CSTO) Collective Operational Reaction Forces and Russia's peacekeeping forces (Interfaks-AVN 2013).

The Airborne Forces retain a division-based structure. In 2013, they had four divisions – two airborne (98th Ivanovo; 106th Tula) and two air assault (76th Pskov; 7th (Mountain) Novorossiisk) – and one independent air assault Brigade (31st Ulyanovsk). Each division/brigade has one battalion-size tactical group in high readiness for immediate responses in emergencies such as hostage evacuation (*Voenno-promyshlennyi kurer* 2013). The Airborne Forces also include the 45th Special Forces Regiment in Kubinka near Moscow, likely to be a core unit of Russia's newly formed Special Operations Command (SOCOM), which will also include air transport and helicopter units (Trenin 2013), although details remain unclear.

Some 10 per cent of the Airborne Forces' equipment is modern (Litovkin 2012a). The concept of armoured airborne units seems still to be in place. Several themes recur in articles about the Airborne Forces' development. Creating mobile tactical groups would require, for example, intrinsic (i.e. their own, not coming from reinforcements) combat unmanned aerial vehicles (UAVs) and transport and attack helicopters (*Voenno-promyshlennyi kurer* 2013). The capacity of the Military Transport Aviation (MTA) is 'enough for training', but – apart from Airborne Forces Commander Colonel-General Vladimir Shamanov admitting that today the MTA's capabilities are 'limited' – it is unclear how much could be available for operations. Exercises indicate that the largest units that can be airdropped are battalion-size (Interfaks-AVN 2012; 2013).

The Aerospace Defence Forces

The role of the Aerospace Defence Forces (*Voiska Vozdushno-kosmicheskoi Oborony*) is to detect and repel missile attacks, to warn the political and military leadership of an incoming attack, to protect objects of strategic importance from attacks from the air and space, and to launch and control commercial and military satellites. The Aerospace Defence Forces were created on 1 December 2011 by joining the Air Force's SAM brigades in the Moscow region with the Space Forces (Carlsson and Norberg: 115). The major part of the air defence, however, remained under the command of the AFADCs (Litovkin 2012b). The aim of the merger was to create a system which can repel an attack not only by strategic nuclear weapons but also by cruise missiles and ballistic missiles with conventional warheads. According to plans, an Aerospace Defence Forces' command will be established by 2016 (Carlsson and Norberg 2012: 115–116). The new arm of service is at present not fully functioning and has encountered difficulties in the on-going consolidation and development process.

The strategic early-warning system for detecting incoming ballistic missiles consists of satellites and ground-based radar and observation sites. Since March 2012, the four satellites of the *Oko* system have provided Russia with practically permanent coverage of the continental USA, but they cannot detect launches from other areas. The ground-based early-warning radar chain is being modernised and relocated to Russia. In January 2013 it consisted of one new fully operational *Voronezh*-type radar in Leekhtusi (east of St Petersburg) and five older radar stations, two of which were outside Russia (Podvig 2013).

The aged A-135 intercontinental ballistic missile (ICBM) defence system is operated by a missile defence division. It consists of sixty-eight short-range Gazelle interceptors with nuclear warheads, a battle-management radar and a command centre. The thirty-two long-range Gorgon interceptors had been removed from service, but the command centre and the radar were undergoing software upgrades in 2013 (ibid.). In addition, the Aerospace Defence Forces have the S-400 air defence missile system. During the period 2007–2012, eleven S-400 battalions were delivered to the Armed Forces (Westerlund 2012: 83; Chapter 6, Table 6.5). Two of these are operated by the Baltic Fleet and another two are stationed in the Eastern MD, according to media sources (*RIA Novosti* 2012). In mid-2012 two regiments, in total four battalions, were reportedly operational within the Aerospace Defence Forces, in the Moscow area (ibid.; Konovalov 2012). The remaining three delivered battalions and deliveries in early 2013 may have made it possible for another one to two regiments to be formed.

According to the 2020 State Armament Programme, in total fifty-two S-400 battalions are planned to be produced, a demanding task for the defence industry. Deliveries of the next-generation missile defence system, the S-500, are planned to begin in 2017 at the very earliest (Westerlund 2012: 83). It will enable the Aerospace Defence Forces to destroy medium-range ballistic missiles and salvos of hypersonic cruise missiles. According to information in the Russian media, the Aerospace Defence Forces do not have this capability at present (Konovalov 2012).

The Strategic Missile Forces

The Strategic Missile Forces (*Raketnye voiska strategicheskogo naznacheniia*) are an arm of service of the Armed Forces and the main component of the strategic nuclear forces. Their mission is nuclear deterrence of aggression and destruction of strategic enemy targets. In 2013, the Strategic Missile Forces comprised a force command, three missile armies with a total of twelve divisions, two training centres and a school for technicians (Ministry of Defence 2013a).

The Strategic Missile Forces are equipped with strategic nuclear missiles. Both road-mobile and silo-based ICBMs form the arsenal. The composition of warheads and delivery vehicles is described in Table 2.5 below. Command and control regarding the Strategic Missile Forces is discussed in the following section together with the other nuclear forces.

2.1.2 The nuclear forces

Russia's strategic and sub-strategic (tactical)[5] nuclear forces provide strategic deterrence and complement conventional forces in regular warfare. Despite previous reductions, Russia and the USA still have by far the largest nuclear weapon arsenals (see Table 2.4).

Table 2.4 World nuclear forces (warheads), January 2013 (*January 2011 in brackets*)

Country	Deployed[1] warheads	Other warheads[2]	Total inventory
Russian Federation	~1 800 (~2 427)	6 700[3] (~8 570)	~8 500 (~11 000)
United States	2 150[4] (2 150)	5 550 (6350)	~7 700[5] (~8 500)
France	290 (290)	10 (10)	~300 (~300)
China	-	250 (200)	~250 (~240)
United Kingdom	160 (160)	65 (65)	225 (225)
Pakistan	-	100–120 (90–110)	100–120 (90–110)
India	-	90–110 (80–100)	90–110 (80–100)
Israel	-	~80 (~80)	~80 (~80)
North Korea	?	?	6–8 (?)

[1] 'Deployed' means warheads placed on missiles or located on bases with operational forces.
[2] These are warheads in reserve, awaiting dismantlement or that require preparation before becoming fully operationally available.
[3] This includes circa 700 warheads for nuclear-powered ballistic missile submarines in overhaul and bombers, 2 000 sub-strategic warheads as well as some 4 000 retired warheads awaiting dismantlement.
[4] In addition to strategic warheads, this figure includes nearly 200 sub-strategic nuclear weapons deployed in Europe.
[5] This figure includes the US Department of Defense nuclear stockpile of circa 4 650 warheads and another circa 3 000 retired warheads that are awaiting dismantlement.
Source: SIPRI 2013: 284, Table 6.1; SIPRI 2011: 320, Table 7.1

[5] In the absence of a generally accepted definition, sub-strategic nuclear weapons here refer to nuclear weapons not covered by strategic arms control agreements.

The strategic nuclear weapons arsenal

In 2013, the strategic deterrence forces were estimated all in all to comprise approximately 80 000 service personnel, including Air Force and Navy servicemen (IISS 2013: 225). The forces are divided organisationally into ground, air and naval units, the so-called 'nuclear triad'. The main element of the triad is the Strategic Missile Forces. Not only do they have the largest number of delivery vehicles and warheads, but they also have higher readiness and all-weather capability as well as a more robust command and communication system. The naval element is the strategic nuclear-powered ballistic missile submarines (SSBNs), which are divided between the Northern Fleet and the Pacific Fleet. When submerged, the submarines are difficult to track and destroy, making them the main nuclear counter-strike asset. Two weaknesses are their vulnerability before deployment to sea and the less reliable command and control conditions on patrol. The Long-Range Aviation constitutes the Air Force component and consists of two main bases, with strategic and long-range bombers. It is the most flexible leg of the triad, being able to deliver both strategic and sub-strategic nuclear as well as conventional weapons (Yesin 2012).

The American researchers Hans M. Kristensen and Robert S. Norris (2013) have estimated that in March 2013 Russia had a total of some 2 500 strategic warheads and 558 launchers, slightly more than estimated in January 2011 (Kristensen and Norris 2011: 68). The previous trend of a continually diminishing force has been broken. In the 2013 arsenal, 1 800 warheads were estimated to be deployed on fewer than 500 launchers (see Table 2.5). The number of land-based ICBMs has increased more than the number of ICBM-deployed warheads since 2011. This is due to older ICBMs with multiple warheads being replaced by missiles carrying fewer warheads. In 2012, deployment of single-warhead SS-27 *Topol-M* ICBMs was completed, to the benefit of multiple-warhead missile procurement (Kristensen and Norris 2013: 73).

Older submarine-launched ballistic missiles (SLBMs) have continued to be replaced with modern missiles, preserving the total of 2011. Due to the introduction of the *Bulava* SLBM, carrying six warheads, the number of deployable warheads has increased slightly. In early 2013, the first SSBN of the new *Borei* class, the *Yuri Dolgorukii*, carrying the *Bulava*, entered into service. The overhaul and conversion of the six Delta IV SSBNs to carry the modern *Sineva* SLBM has also been completed. Both the *Yuri Dolgorukii* and the Delta IVs are based in the Northern Fleet, leaving the Pacific Fleet with only three older Delta III SSBNs.

The estimated number of strategic bombers in service has dropped to seventy-two compared to seventy-six in January 2011, due to four Tu-95 bombers being retired. The fleet is continuously being upgraded and only sixty of the Tu-95 and Tu-160 strategic bombers are deployed, according to the estimate of Kristensen and Norris (2013: 75–77). They do, however, express uncertainty about the number of aircraft and their operational status. For the number of delivery vehicles of the respective types and the distribution of the warheads, see Table 2.5. Strategic deterrence and the roles of nuclear weapons in Russian policy are discussed in Chapter 3 on security policy.

Table 2.5 Russian strategic nuclear forces as of March 2013 (number deployed in italics)

	NATO designation	Russian designation	Launchers	Year deployed	Warheads * yield (kilotons)	Total no. of warheads
ICBMs	SS-18-M6 Satan	RS-20V	55	1988	10* 500/800 (MIRVs)	**550**
	SS-19-M3 Stiletto	RS-18	35	1980	6* 400 (MIRVs)	**210**
	SS-25 Sickle	RS-12M Topol	140	1988	1* 800	**140**
	SS-27-Mod1 (mobile)	RS-12M1 Topol-M	18	2006	1* 800?	**18**
	SS-27-Mod1 (silo-based)	RS-12M2 Topol-M	60	1997	1* 800	**60**
	SS-27-Mod2 (mobile)	RS-24 Yars	18	2010	4* 100? (MIRVs)	**72**[1]
	SS-27-Mod2 (silo-based)	RS-24 Yars	–	(2013)	4* 100? (MIRVs)	**–**
	Total ICBMs		**326** ***?***			**1 050** ***~700***
SLBMs	SS-N-18 M1 Stingray	RSM-50	3/48 *2/32*	1978	3* 50 (MIRVs)	**144** ***96***
	SS-N-23 Skiff	R-29RM	0/0	1986	4* 100 (MIRVs)	**0**
	SS-N-23 M1	RSM-54 Sineva	6/96 *4/64*	2007	4* 100 (MIRVs)	**384** ***256***
	SS-N-32	RSM-56 Bulava	1/16	2013	6* 100 (MIRVs)	**96**
	Total SLBMs		**10/160** ***7/112***			**624** ***448***
Bombers	Bear H6	Tu-95 MS6	29	1984	6* AS-15A ALCMs or bombs	**174**
	Bear H16	Tu-95 MS16	30	1984	16* AS-15A ALCMs or bombs	**480**
	Blackjack	Tu-160	13	1987	12* AS-15B ALCMs, AS-16 SRAMs or bombs	**156**
	Total bombers		**72** ***60***			**810**[2] ***676***
Total			**558** ***<498***			**~2 500** ***1 800***

[1] Since the assessment of 2011, Kristensen and Norris have revised their estimate of the number of warheads deployed on the RS-24 Yars from three per missile to four per missile.

[2] The bomber weapons are kept in storage, not deployed on the aircraft. Kristensen and Norris estimate that only a couple of hundred weapons are present at the two bomber bases, with the remainder in central storage facilities.

Note: Some additional 4 000 retired strategic and non-strategic warheads were estimated to be awaiting dismantlement.
Abbreviations: ALCM = air-launched cruise missile; ICBM = intercontinental ballistic missile; MIRV = multiple independently-targetable re-entry vehicle; SLBM = submarine-launched ballistic missile; SRAM = short-range attack missile.
Sources: Kristensen and Norris 2013: 69, 77; 2011: 68.

Sub-strategic nuclear weapons

The information available about Russia's sub-strategic nuclear weapons is limited. In mid-2012 and early 2013, Russia was estimated to have approximately 2 000 sub-strategic warheads in service (Sutyagin 2012: 69; Kristensen and Norris 2013: 77). A composite assessment arrived at the same number in 2010 (Zagorski 2011: 14). Warheads kept in nuclear weapon storage separate from their launchers are assessed as being in service (Kristensen and Norris 2011: 68). There are nuclear storage facilities in all MDs except for the Southern MD. There are, however, three nuclear storage facilities just outside it (See Map 2.5, p. 63).

Information on the number of operationally assigned sub-strategic nuclear warheads is even scarcer. Igor Sutyagin, research fellow at the Royal United Services Institute (RUSI) in London, has developed and applied a methodology for assessing the number of Russian operationally assigned warheads, i.e. warheads assigned to available delivery systems (Sutyagin 2012). The method has its merits, but his estimate rests on a number of assumptions drawn from fragmentary historical facts. Even granted that Russian nuclear thinking clearly is conservative, one has to wonder whether no new concepts have been introduced and affected the operational deployment. Despite the uncertainties regarding the numbers, Sutyagin's estimate of the size and composition of the operational sub-strategic nuclear force (see Table 2.6) can be used in an assessment of Russian military capability. In mid-2012, Sutyagin estimated the operational force to be 860–1 040 sub-strategic nuclear warheads, with some 900 additional warheads in service but not operationally assigned.

The nuclear warheads for air and space defence are probably of little military significance. The ballistic missile defence interceptors are aged and inefficient and the naval air defence warheads are few in number. Furthermore, Sutyagin (2012: 23) doubts the nuclear role of the land-based surface-to-air missile systems. The necessary technical battalions have been eliminated and training for nuclear strikes seems to have stopped. Without technicians and training, a nuclear capability is difficult to uphold. Kristensen and Norris (2013: 72, 78) estimate that some 340 warheads are assigned to surface-to-air missiles, but acknowledge that there is considerable uncertainty regarding their nuclear capability and warhead assignment. On the whole, none of these systems are likely to increase Russian military capability significantly. Moreover, a high proportion of the naval warheads has a narrow military use as it is dedicated to anti-submarine warfare (Sutyagin 2012: 43).

In 2012, Russia nevertheless possessed a considerable number of other sub-strategic nuclear warheads. Sutyagin (op. cit.: 43–45) estimates that there were ninety-six operationally assigned warheads for submarine-based long-range land-attack cruise missiles and another forty-four warheads for anti-ship missiles. Alongside up to 192 warheads for the SS-21 *Tochka* and SS-21 *Iskander* short-range ballistic missile systems, Sutyagin (op. cit.: 55–56) holds it possible that warheads may still be operationally assigned to heavy artillery units. Kristensen and Norris (2013: 78) do not mention artillery but ascribe some 170 warheads to the *Tochka* and the *Iskander*. Neither of them discusses nuclear landmines, the

Table 2.6 Russian operational sub-strategic nuclear forces 2013: delivery vehicles and assigned warheads per force and military district

	Eastern MD Vehicles Warheads		**Central MD** Vehicles Warheads		**Southern MD** Vehicles Warheads		**Western MD** Vehicles Warheads		**Total warheads**
Aerospace Defence Forces ABM-3 Gazelle (A-135) SA-10/20 (S-300) SA-21 (S-400)	14 battalions 3 battalions	0–14 0–3	15 battalions	0–15	6 battalions	0–6	68 missiles 52 battalions 8 battalions	68 0–52 0–8	68 0–87 0–11
Total		***0–17***		***0–15***		***0–6***		***68–128***	***68–166***
Air Force Backfire (Tu-22M3) [AS-4 missiles] Fencer D (Su-24M) [AS-11 and AS-13/-18 Fullback (Su-34) [missiles and bombs] Foxbat D/F (MiG-25) [AS-11 and bombs]	2 regiments	36	1 regiment 1 regiment	34 18	2 regiments[1] 5 aircraft[2] 0	36	3 regiments 4 regiments 1 regiment 1 regiment	102 72 18 18	136 162 18 18
Total		***36***		***52***		***36***		***210***	***334***
Navy SLCMs [SS-N-21] ASMs [SS-N-2c, -9, -12, -19, -22] Surface-based NDBs [RYu2-2] Surface-based air defence [SA-N-6, -20] Surface ASW missiles [SS-N-14, -15] Submarine ASW missiles/torpedoes Shore-based aviation NDBs Coastal defence missiles [SSC-1B, -3, -5]	5 submarines 9 ships/submarines 6 ships 1 ship 4 ships 17 submarines 22 aircraft 6 battalions	40 16 6 1 4 34 22 12			6 ships 3 ships 1 ship 3 ships 4 aircraft 1 battalion 2	7 3 1 3 4	8 submarines 13 ships/submarines 12 ships 2 ships 8 ships 21 submarines 20 aircraft 3 battalions 6	56 21 19 3 8 42 20	96 44 28 5 15 76 46 20
Total		***135***		***0***		***20***		***175***	***330***
Ground Forces Short-range ballistic missiles [SS-21, -26] Nuclear artillery [2A36, 2S5, 2S7, Tyulpan]	3 brigades 5 battalions	36–54 0–10	2 brigades	24–36	1 brig., 2 ind. bat'ns	20–30	4 brigades 4 battalions	48–72 0–8	128–192 0–18
Total		***36–64***		***24–36***		***20–30***		***48–80***	***128–210***
Grand total		**207–252**		**76–103**		**76–92**		**501–593**	**860–1 040**

[1] The Fencer D regiment deployed at Gvardeyskoe (Crimea) is fully de-nuclearised and has not been included.
[2] The five Fullbacks – and four Fencer Ds – currently deployed at the 929th Flight Test Centre in Akthubinsk are assumed to be part of their ordinary units.
Abbreviations: ASM = anti-ship missile; ASW = anti-submarine warfare; NDB = nuclear depth bomb; SAM = surface-to-air missile; SLCM = submarine-launched cruise missile.
Source: Sutyagin 2012 (primarily Appendix 1).

simulated use of which was reported in a Russian newspaper in 2010 (Falichev 2010). Finally, according to Sutyagin (2012: 33) the Air Force operates several kinds of aircraft and a total of 334 operationally assigned warheads. This differs significantly from Kristensen and Norris' (2013: 77) estimate of approximately 730 warheads. They estimate the number of available aircraft to be 430, while Sutyagin holds only 340 aircraft to be operationally available. Furthermore, Kristensen and Norris assume a loading of two or three warheads per aircraft, while Sutyagin assumes that warheads are assigned per unit and in different quantities depending on type of aircraft. Even with Sutyagin's lower estimate, the number of operational warheads is significant.

Regarding the distribution of warheads between Russia's Military Districts, Sutyagin's report is the only available source. More than half of the operationally assigned warheads are estimated to be located in the Western MD, followed by the Eastern MD with a quarter of the warheads (Sutyagin 2012: 69). The Western MD, however, comprises both the Baltic and the Northern Fleet, the air and missile defence of Moscow, and a large part of the long-range bomber force. The 100 warheads assigned to the 600-kilometre-range AS-4 missile carried by the Tu-22M3 bombers may well be used against targets in any direction. The Su-24M Fencer force, estimated to carry half of the Air Force's operational sub-strategic nuclear warheads, can also achieve a long strike range through in-air refuelling. In this light, Sutyagin's estimate of the distribution between the Military Districts seems credible.

2.2 Personnel and the Logistics and Rear Service

Apart from the above outlines on equipment holdings, nominal manning and organization, military capability is also affected by actual manning as well as Logistics and Rear Service. The first is personnel issues, as the Armed Forces has difficulties in attracting enough numbers of suitable young men. The second factor is Logistics and Rear Service which has been reorganized during the recent transformation of the Armed Forces and which is vital for endurance.

2.2.1 Personnel issues in the Armed Forces

Personnel remains one of the more challenging issues for the Armed Forces. Measures have been taken to increase the attractiveness of service and improve the conditions, but service in the Armed Forces still suffers from negative perceptions among the population. This results in large numbers of young men avoiding military service, and difficulties in recruiting and keeping enough suitable contract-employed soldiers and non-commissioned officers (NCOs). Although it is no longer extensively debated, hazing is most probably still prevalent and this has a negative impact on the individual serviceman, group cohesion and military capability. The high employment rates in Russia create competition for the labour force in which the Armed Forces is a less attractive option for most young men.

1 million men

Russian law stipulates that the Armed Forces should comprise 1 million men (President of Russia 2008). For the past couple of years the Armed Forces in reality have comprised not more than 800 000 men (Carlsson and Norberg 2012: 103) and in July 2013 the figure was confirmed by the chief of the General Staff (Litovkin 2013a). According to information in the Russian media, however, the Armed Forces amounted to about 700 000 men during the first six months of 2013, and FOI estimates suggest that the figure could be as low as 625 000 (see Table 2.7). Irrespective of the exact numbers this results in the units not being fully manned. In November 2012, unit manning levels were on average between 40 and 60 per cent according to the General Staff (there are diverging figures from different sources; see also Chapter 5 on defence spending). In the summer of 2013, the chief of the General staff stated that manning levels were around 80 per cent (Ministry of Defence 2013c). The personnel were not evenly distributed across the Armed Forces. In the Southern MD, units were manned to 90–95 per cent (Mukhin 2012a), indicating that this is the strategic direction where Russia believes conflicts can arise quickly. The low manning levels result in many units having difficulty function at full capacity. Moreover, the reform goal that all units should be in constant readiness, when readiness is defined as fully manned and equipped, is partly not being met.

In 2011 the personnel structure was revised, which means that the transition from a system with the emphasis on conscription to one stressing contract-employed soldiers and NCOs will take place in the period up to 1 January 2017 (see Table 2.7). It also means a deviation from the target of 1 million men, as the new plan allows for a maximum of 915 000 men. This has, however, received very little attention, even in military circles, and it therefore has to be assumed that 1 million remains the magic number. Attempts to introduce contract-employed soldiers and NCOs were made in the 2000s and failed (Carlsson and Norberg 2012: 104). The new contract-employed soldiers would be concentrated in the Navy, the Strategic Missile Forces and the Aerospace Defence Forces (*RIA Novosti* 2013a) and are supposed to fill the previous sergeant and sergeant major positions, as well as specialist positions which would operate the new armaments systems (Mukhin 2013c).

New personnel plan

To fulfil the new personnel plan, 50 000 contract-employed soldiers and NCOs would have to be recruited annually – a very ambitious target. The implementation of the plan has, however, been debated. In late summer 2012 President Putin stated that an increased share of contract-employed soldiers and NCOs could only be realised if the economic conditions of the country permitted, and the Ministry of Finance foresaw a reduction in numbers (Mukhin 2012a, 2012b). In April 2013, however, Minister of Defence Shoigu announced that 60 000 contract-employed soldiers would be recruited that year (Vladkyn 2013), which is 10 000 more than the planned recruitment rate. To meet the target of 425 000 in 2017 (Carlsson and Norberg 2012: 103) the Armed Forces would need to have a higher recruitment rate since the share of contract-employed soldiers who choose not to renew their contracts after three years remains high – according to the Armed Forces it is 35 per cent that leave (Mukhin 2012a). In reality the number is probably higher and experts quoted in the Russian media claim that the share is 80 per cent (Smirnov 2013a).

Table 2.7 Plans and reality regarding manning of the Russian Armed Forces, 2012, 2013 and 2017

	Media source April 2012	Media source first six months of 2013	Plan 1 January 2017
Officers	160 100	220 000	220 000
NCOs and contract-employed soldiers			425 000*
Contract-employed soldiers	189 700	186 000	
Conscripts	317 200	295 710**	max 270 000
Total personnel	**667 000**		
Est. total personnel		**702 000**	**max 915 000**

Source: Nikolskii 2012; *Nezavisimoe voennoe obozrenie* 2012; and McDermott 2011, based on Nikolai Pankov, Deputy Minister of Defence.
* The Ministry of Defence has not clarified the division between contract-employed soldiers and NCOs.
** The author of the article has used the total number of conscripts. The Armed Forces do not, however, receive all conscripts as they conduct the draft on behalf of all power ministries. The number of conscripts assigned to the Armed Forces is normally not made public. There is, however, information to the effect that in the autumn of 2011 the Armed Forces received 100 000 men out of the 135 800 conscripts drafted (McDermott 2012a), which is 73.6 per cent. During the whole of 2011, 317 000 conscripts were assigned to the Armed Forces out of the 373 000 men drafted (Nikolskii 2012), hence 85 per cent of the total. One could assume that this proportion is similar in the other drafts and gives an indication of the number of conscripts and the total number of men in the Armed Forces. Consequently, during the first six months of 2013 the Armed Forces might have comprised 625 000–657 000 men.

The new personnel plan stipulates the introduction of the NCO in the Armed Forces. So far only a few hundred have graduated from the two-year course at the Airborne Forces' Command School in Riazan: in June 2012, 180 cadets (out of 240 accepted) graduated and in November 2012 175 cadets (out of 240 accepted) graduated (IISS 2013: 201; Mukhin 2012c). Another 124 NCOs are expected to graduate in 2013 (out of 500 cadets at the Command School) (McDermott 2013b). Even though the Ministry of Defence has not made public the number of NCOs it intends to recruit, it is unlikely that the target will be met in 2017 at this rate. In the meantime the Armed Forces have filled the NCO positions with 60 000 former conscripts who have undergone a three-month course (Mukhin 2012c).

Probably due to the slow introduction of NCOs, but also because of problems in the Logistics and Rear Service (see section 2.2.2 below), Sergei Shoigu announced in February 2013 that 50 000–55 000 warrant officers would be reintroduced in the Army and the Navy. Until December 2009 the Armed Forces had 142 000 warrant officers, who mostly served in the present Logistics and Rear Service, but who also commanded troops and operated more complex armament systems. These warrant officers were discharged and were supposed to be replaced by NCOs (Smirnov 2013b). Shoigu has not mentioned a time frame for reinstating the warrant officers or said whether there would be adjustments regarding the number of NCOs. According to some experts the return of the warrant officers means the renunciation of the NCOs (Golts 2013a), while others see it as an interim solution (interview, Moscow 2013). It will probably prove difficult to recruit new warrant officers due to specific requirements and competition from other power ministries and other parts of the labour market.

Table 2.8 Number of conscripts drafted 2011–2013

	Spring 2011	Autumn 2011	Spring 2012	Autumn 2012	Spring 2013
Number of conscripts	218 700	135 800	155 570	140 140	153 200

Sources: Litovkin 2012c; *Nezavisimoe voennoe obozrenie* 2012; President of Russia 2013a.

Meanwhile, the Armed Forces suffer from a shortage of conscripts (Boltenkov 2012: 24) and as a consequence the period of service has been debated. In February 2013, however, President Putin made it clear that it would remain twelve months (President of Russia 2013b).

Health situation in the armed forces

The number of conscripts who can be drafted is limited by demographic factors and poor health among young men. Over the period 2013–2023 the number of men turning eighteen will be between 660 000 and 760 000 a year, with rather large variations between the years (Rosstat 2013; see also Figure 5.3 in Chapter 5 on Russian defence spending). Even if poor health is grounds for exemption from military service, 52 per cent of the 295 710 men drafted in 2012 had health constraints (Burdinskii 2013). In addition to poor health, a number of other exemptions exist, for example university studies, which further reduces the pool of possible conscripts. The quality of the conscripts is another fundamental question since they not only constitute the majority of soldiers but are also the principal source for recruiting contract-employed soldiers and NCOs. Besides poor health the conscripts often have a low level of education and sometimes a criminal record. The low level of education can be problematic when more advanced equipment is introduced in the Armed Forces (Carlsson and Norberg 2012: 103).

The system of conscription for one year with two call-ups a year affects the units' capability as it limits the level of training and hence mobility. The new requirements of the reform regarding mobility increase the time of training needed, which reduces the time within which a conscript is combat-ready. Modern, more complex weapons systems are supposed to raise the capability of the units, but they require more than a year to learn how to operate. Those units will therefore have to be manned with contract-employed personnel. As long as it is problematic for the Armed Forces to recruit suitable soldiers it will be difficult to use the full potential of more sophisticated weaponry.

The assessment made here of military capability in the different strategic directions builds on the following estimates. The manning level of above 90 per cent in the Southern MD probably enables it to launch an operation with half of the units within a week and all units within a month from an order being given. Other priority units are likely to be Russia's military bases abroad and the Airborne Forces, which in this study are assumed to have manning levels similar to those of the Southern MD. As described above, unit manning levels in the rest of the Armed Forces reportedly varied between 40 and 60 per cent in November 2012. In this study the estimate is that standing units are manned up to two thirds, which is possibly the minimum needed for a functioning unit.

Half of the personnel in a standing unit are available for operations within a week, the rest within a month due to leave, training and other assignments. A nominally 4 000-man brigade would then have some 2 700 men on duty, out of which around 1 350 (one third of the nominal strength) would be available within a week, another third within a month. Filling up units further would probably entail calling up reserves or re-prioritising between strategic directions. Filling them to more than 90 per cent is assumed to take up to six months. Seasoned contract soldiers are more capable than one-year conscripts. However, without exact information about the shares of each in the different units it is impossible to distinguish between the two categories.

2.2.2 The Logistics and Rear Service

The new Logistics and Rear Service was created in 2010 in order to support rapid deployment and improve sustainability in operations. It has a more simplified organisation than its predecessor but remains complex, as it also involves civilian suppliers of goods and services. The challenge for the Logistics and Rear Service is to abandon the Soviet practice of moving bulk supplies to the front and instead respond to specific demands of the units as they arise during operations (McDermott 2013a: 62).

The Ministry of Defence contains departments responsible for logistical support, such as supplying units with weapons systems, ammunition and fuel (Carlsson 2012: 29). In the MDs the Logistics and Rear Service is subordinated to the commander and in war it will support all military and paramilitary units within the MD. The ten combined-arms armies each have a Logistics and Rear Service brigade assigned to them. On the command level of the combined-arms brigades the deputy commander is responsible for the logistics. Logistics and maintenance battalions have been introduced in order to carry out some of the brigades' own repairs and logistics (McDermott 2013a: 47–48). There is, however, a lack of personnel in general, and especially of technical specialists and contract-employed soldiers on this level (ibid.: 55–56).

The reform of the Logistics and Rear Service opened up scope for outsourcing parts of its activities to civilian contractors. The aim was to enable the soldiers to focus on training and to increase the quality of and reduce the price of services. Nine joint stock companies were formed under the umbrella of the state corporation Oboronservis. It was to provide the Armed Forces with maintenance services and modernisation of weapons systems, refurbishment of buildings, construction, agricultural products and foodstuffs, as well as operating the canteens. This arrangement, however, created a breeding ground for embezzlement, corruption and neglect of tasks. Contrary to intentions, expenditure on logistics and rear service doubled or tripled at the same time as quality deteriorated, and assignments were not performed, or only the more lucrative ones were carried out (Vorobev 2012). This became the official reason why Defence Minister Anatolii Serdiukov was dismissed in November 2012, since he had been the chairman of Oboronservis.

The Logistics and Rear Service was tested during the Vostok-2010 and Tsentr-2011 exercises, and to some extent during Kavkaz-2012, with limited success (McDermott 2013a: 46–48). This might be explained by the fact that the service had only just been introduced. The joint stock companies, which were supposed to provide the units with rations, repair and maintenance of the weapons systems and technical equipment during combat operations and in states of emergency, were unable to do so during exercises (Smirnov 2013a; McDermott 2013a: 45; Vorobev 2012; Smirnov 2012).

Despite these problems and signs that corrupt behaviour was still going on in parts of Oboronservis (Mukhin 2013a), Shoigu declared in late February 2013 that the Ministry of Defence had no intention to abandon outsourcing (*RIA Novosti* 2013b). In the spring of 2013, however, he created a department in the Ministry of Defence which would monitor the activities of Oboronservis (Mukhin 2013a). More importantly, in the field of repair and maintenance he proposed to the defence industry a system whereby it would be responsible for the mid-life upgrading and deep renovation of the armaments systems they produced (Fedutinov 2013). He also decided to transfer tasks such as minor repairs and operational maintenance to the Armed Forces (Mikhailov 2013). Finally, in late April 2013 he cancelled the monopolies of the three joint stock companies dealing with maintenance service and modernisation of weapons systems. General Vladimir Bulgakov, who heads the Logistics and Rear Service, announced that during exercises and in wartime private contractors would no longer be engaged; instead the Armed Forces would cater for their own needs (Mukhin 2013b). In order to take over these functions the MDs will have to rebuild the organisation, which will take considerable time.

Current problems in the Logistics and Rear Service make it uncertain what it would be able to deliver regarding rations and maintenance of armaments systems in a combat operation. Difficulties in this area will remain in the coming years. The Armed Forces' ability to muddle through if needed should, however, not be forgotten. Attempts are being made by the military leadership to address the problems and in the longer-term perspective there may be a Logistics and Rear Service which can provide the Armed Forces with better support.

2.3 Force disposition and mobility

The disposition of the Armed Forces is assumed to reflect Russian planning based on threat assessments. Their disposition, if they are taken together, indicates that Russia plans for operations in all strategic directions, ranging from regional wars, in the east, the west and possibly the south, to stability operations in Central Asia, the Caucasus or the wider Middle East. Keeping the guard up in all directions limits the amount of forces available as reinforcements. Strategic mobility aims to ensure flexibility to move available assets between strategic directions. This section will discuss factors that affect the availability of forces that can be redirected from one strategic direction to another and strategic mobility. For the ability to fight local and regional wars, Ground Forces manoeuvre brigades are the key units and are in focus here.

2.3.1 Force disposition and reinforcements

The force disposition in the MDs ensures that units for land, sea and air operations are available in each strategic direction. But what can be said about Russia's flexibility to redeploy military assets between the different MDs, i.e. to adapt military capability in different strategic directions?

The disposition of forces in an MD is the basis for force generation in the strategic direction in question. The discussion here will take as its starting point the MD's nominal assets (see Table 2.1) and assess the number of units that can be redeployed to other strategic directions without taking significant military-strategic risks. For that reason, only half of the standing units are assumed to be available for redeployment. The assessments made here are primarily based on what the organisational structure of standing units may allow, since manning levels, the ratio of conscripts to contracted soldiers and equipment standards vary, both over time and across Russia. Furthermore, geographically isolated forces such as the Caspian Flotilla, Russian military bases abroad, and the forces in Kaliningrad, Sakhalin, the Kurile Islands and, to some extent, the Kola Peninsula, are discounted as potential reinforcements from the assessments made here.

The four strategic directions

The eastern strategic direction faces China and the Pacific Ocean, with the USA and Japan as other regional powers. The Eastern MD Ground Forces consist of thirteen manoeuvre units – eleven motor rifle brigades (MRBs), one tank brigade and one motor rifle division (the 18th Artillery and Machine Gun Division in the Kurile Islands) – and eight motor rifle brigade equipment stores. The information about equipment stores indicates that the eastern strategic direction is a 'receiver', i.e. significant military resources are unlikely to be moved from east to west without major changes in the military-strategic situation.

The Central MD is responsible for the Central Asia strategic direction and appears to be Russia's strategic reserve for limited wars, both to the east and to the west. It has seven manoeuvre brigades and one tank brigade and three brigade equipment stores. The stores are in the eastern part, the tank brigade in the western part of the MD. Half of the MD's units, four standing manoeuvre brigades, are assessed to be available for redeployment outside the MD. In addition, up to three brigades with equipment from the stores in the eastern part of the MD and auxiliary personnel can be redeployed to the Eastern MD.

The southern strategic direction includes the North Caucasus and faces other volatile areas such as the South Caucasus and the wider Middle East. It has nine manoeuvre brigades and no equipment stores, indicating that forces are planned to be used at short notice. The units are therefore unlikely to be available for redeployment elsewhere, save for one brigade.

The western strategic direction faces NATO. The Western MD has two tank brigade equivalents and seven motor rifle brigade equivalents – including one in Kaliningrad and one on the Kola Peninsula which are assessed here as

not available as reinforcements. Three brigades are assessed to be available as reinforcements in other strategic directions.

Three divisions and one brigade of the Airborne Forces are assessed to be available as reinforcements all across Russia. They are likely to play a key supporting role in limited wars, especially initially when the ability to be deployed comparatively swiftly would help in buying time for the mobilisation and transport of reinforcements to the strategic direction in question. For all of Russia, half an airborne division, the equivalent of an airborne brigade, is estimated to be available within a week and one more division within a month. Another two airborne divisions are estimated to be available within six months. In addition, it is estimated that one airborne division is kept in reserve.

Military aircraft are the assets that can be moved most quickly between strategic directions. Quickly concentrating air power in a priority strategic direction, the more the better, can be crucial for swift success. The General Staff is assumed to allow air power to follow in proportion to Ground Forces, reinforcing between strategic directions, but to leave at least half of all units for each type of role (e.g. fighters for air superiority and attack aircraft for support to ground operations) in each strategic direction. Half of all units are accordingly assumed to be available for reinforcements elsewhere (roughly 240 fighter aircraft, 240 attack aircraft). Half of available units can redeploy within a week (120 fighters; 120 attack), and the rest within a month, taking into account the specifics of each aircraft type and the capability to receive aircraft.

Naval ships are unlikely to reinforce other strategic directions, especially within one week. Within one month most ships can, in theory, move between the different fleets. It is assumed here that the General Staff would leave at least half of available units for landing, air, surface and underwater operations respectively in each of the four Fleets.

2.3.2 Strategic mobility

Railways

Transporting Russia's troops, equipment and supplies remains dependent on the railways. Air, river and road transport play smaller roles (McDermott 2013a: 37). In terms of quantity its railways are the most important asset for Russia's strategic mobility, especially within Russia, but also as far as Russian/Soviet railway gauge reaches in former Russian and Soviet areas. Within Russia, the state-owned monopoly Russian Railways is the basis for military railway transport. The MoD also has a special arm of service, the 24 000–28 000-strong Railway Troops, to enable mobilisation and transport, but also to build and repair railways, protect infrastructure and carry out de-mining (Gavrilov 2010; *Ekho Moskvy* 2011). The time frames used here denote when reinforcements enter the territory of the receiving MD, i.e. they do not necessarily indicate that such reinforcements are ready to start combat operations in all parts of it.

The Military Transport Aviation (MTA)

The Military Transport Aviation (MTA) has some 280 transport aircraft of different sizes. Of these, around eighty are heavy aircraft designed to airdrop

equipment of the Airborne Forces, and another twenty that can transport Ground Forces equipment. The MTA is obviously faster than trains, but they are assessed here as being intended mainly to transport airborne troops and personnel, especially in the one-week perspective. Air transports are vulnerable and require fighter support near conflict zones. Limitations to the MTA's capacity indicate that it would be difficult for Russia to carry out more than one regimental-size airborne operation outside its own territory in 2013, even if Russian forces had air supremacy and all of the MTA were to be used.

The manoeuvre brigades, primarily still armoured, are too heavy for rapid deployment, which limits the strategic mobility of the Armed Forces, especially by air (McDermott 2013a: 32). Plans to convert brigades into three new categories – light (lightly armed), medium or multi-role (wheeled), and heavy (tracked) – by 2015 (McDermott 2013a: 73) may facilitate future mobility. Mobility is today also hampered by difficulties in manning, in discipline and in developing a competent NCO cadre (McDermott 2013a: 62). As a rule of thumb, it is estimated that Russia is able to transport by rail one motor rifle brigade (or equivalent) up to 1 200 kilometres (km) per day (McDermott 2013a: 22). With up to 10 000 km of railway between St Petersburg and Vladivostok, transporting a whole brigade from east to west would hence take a week, not counting time for loading vehicles onto and off the train.

2.4 Exercises

Frequent and large-scale military exercises are a key element in building military capability. One assumption here has been that a force can only perform operations in war similar to what it has performed in exercises. In times of restructuring and introduction of new equipment, exercises are also important to test both personnel and existing systems in practice and identify shortcomings that can be addressed. In other words, exercises improve the real ability of participating units.

One reform ambition has been to improve the ability for joint operations. The Armed Forces' annual operational strategic exercises, rotating between the MDs, create the preconditions to develop the ability for joint operations, since all the branches of service participate in the exercises, but the extent to which they really do develop this ability is hard to determine.

Zapad-2013

In September 2013, the Zapad-2013 (West-2013) operational-strategic exercise, a combined forces exercise with Belarus, took place in the Kaliningrad area, western Belarus and the Baltic Sea. Approximately 22 000 servicemen, 530 armoured vehicles, ninety aircraft and ten ships from the Russian and Belarusian Armed Forces reportedly participated on 20–26 September (Umpirovich 2013; Wilk 2013).

The official scenario was to oust a terrorist formation which had seized Belarusian territory. The tactical elements included deployment of Russian and Belarusian units to the area held by the terrorists, before containing and

defeating them. The Air Force and the Air Defence Forces supported the Army by establishing air control and cutting off aerial supplies from foreign territory to the terrorist formation. The Baltic Fleet established sea control, blocking the adversary's retreat and recapturing ships hijacked by the terrorists (Tikhonov 2013c). In Russian exercises 'terrorist' is a notion commonly used for the adversary so that an exercise does not appear to be designed against any specific country or countries. In this exercise, with the emphasis on the ability to act on land, in the air and at sea as well as seizing terrain, the adversary appeared to be a conventional adversary more than a terrorist group. The actual aim of the exercise was probably to test the defences of Russia and Belarus against a conventional attack from the west.

The Border Troops participated in some phases of the exercise and the readiness of the Interior Troops was tested, as approximately 20 000 servicemen were put on alert (*RIA Novosti* 2013c; Tikhonov 2013d). An unspecified number of Interior Troops servicemen conducted anti-terrorist training elements (Ministry of the Interior 2013). Although this was not officially a part of Zapad, the Northern Fleet also conducted its main training event of the year during the same period. It included air defence and anti-submarine warfare against an unspecified adversary (*Krasnaia zvezda* 2013).

On the whole, the Armed Forces exercised for regular warfare, focusing on joint operations. The exercise included joint inter-service operations with the Belarusian Armed Forces as well as joint inter-agency operations with Border and Internal Troops. Furthermore, command and control as well as mobilisation of reserves were tested (Blank 2013; Kalinin 2013; Wilk 2013).

Kavkaz-2012

In September 2012, the week-long Kavkaz-2012 (Caucasus-2012) exercise was conducted in the Southern MD. The Armed Forces had two main tasks: to plan the use of force in resolving a domestic conflict and repelling an attack on southern Russia by a conventional highly-equipped adversary (President of Russia 2012; McDermott 2012b). The exercise was mainly a staff exercise to improve command and control, and to test the new automated systems on brigade level (Ministry of Defence 2012a) and command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) systems (McDermott 2012b).

About 8 000 servicemen participated in the practical exercise phases (*Voenno-promyshlennyi kurer* 2012a). The Air Force practised dispersed deployment, landing and supporting ground units, and intelligence gathering (*Voenno-promyshlennyi kurer* 2012b). Tu-22M3 long-range bombers launched strikes with Su-27 air cover. The Caspian Flotilla prevented a landing of enemy ships and the Black Sea Fleet repelled landing attacks from the air and sea. *Iskander-M* missiles and naval precision weapons were also tested. The Armed Forces had problems linked to deploying and sustaining forces in the theatre of operations, as well as problems connected to undermanning, which in certain cases was said to be up to 50 per cent. The media reported difficulties with the new brigade command and control system, which the manufacturer blamed on insufficient training for the servicemen operating it (McDermott 2012b; *Vzgliad* 2013).

Readiness checks

From February to July 2013 Russia conducted a special type of exercise, which reportedly had not been carried out for twenty years (Litovkin 2013b). A series of five exercises took place without any prior notification to participating units, although the real element of surprise has been disputed (Golts 2013b). The exercises were systematic in testing readiness in all MDs and key assets subordinated to the General Staff. The mobility of the troops by air and railway was verified in the exercises (Litovkin 2013b), each of them involving up to 9 000 servicemen, except for the last, which, according to the Russian MoD, nominally involved 160 000 servicemen from the Central and Eastern MDs. For most participating units, it was most probably mainly a readiness check in terms of their being present at the base. A smaller proportion of the units was involved in manoeuvres in the field and in troop transport. As for military capability, this was an exercise of Russia's combined military capability in a strategic direction comprising limited war and both conventional and strategic deterrence, including patrols with Tu-95 strategic bombers that can carry nuclear warheads.

Reportedly, communication systems for command and control were a systemic weakness, as was the ability of tank and APC crews to use live ammunition (Tikhonov 2013b; Litovkin 2013c). Nevertheless, the exercises should have given a clear picture of the true readiness of the Armed Forces and the problems they could face in war operations. Altogether, they probably yielded a clear list of the issues that needed to be addressed to improve military capability.

An indication of increasing exercise activity

Apart from the well-publicised annual strategic exercises, units at all levels must exercise to build military capability from below. So how much do Russia's Armed Forces actually exercise? One way to illustrate this is to count the number of newspaper articles about exercises, assuming that articles about a military exercise reflect that it actually has taken place. Through a computer-generated analysis of *Krasnaia zvezda* articles about Ground Forces exercises in the Western MD and selected airborne units in 2000–2013, some 2 million documents were searched and around 126 000 selected as relevant for further text analysis. This analysis narrowed down the number of articles to about 5 300 that could generate data about exercises. Through data fusion the number of excercises per unit per year could be estimated for the period 2010 –2012. For selected Ground Forces' units in the Western MD the numbers of excercises were three in 2010, eight in 2011 and eleven in 2012. For selected airborne units the equivalent numbers were 23 in 2010, 28 in 2011 and 29 in 2012.

The Ground Forces were reorganised in 2009–2010. The period 2010–2012 was therefore selected for analysis since a comparison further back in time could give a skewed result. A reason for a seemingly sharp increase for the selected Ground Forces' units between 2010 and 2011 could be that some of today's brigades did not exist before 2010. Furthermore, this approach only noted the existence of an exercise, not its nature or how successful it was.

Despite measures to avoid double counting, the figures should hence be treated with caution. But, assuming that the shortcomings are the same over time, the trend is the important point, not the numbers. The computer-generated analysis

indicates that exercise activity increased over the three years 2010–2012. If this trend is representative for all of the Armed Forces, it is likely to have strengthened Russia's military capability for local and regional wars.

Increasing nuclear exercise activities

The exercise activity in the nuclear weapon units is estimated in this study to have continued to increase in scope, as it did within the Armed Forces as a whole. On 19 October 2012, the nuclear weapon triad performed the largest nuclear drill in Russian Federation history according to the Ministry of Defence (2012b). The scope of the triad's and the sub-strategic nuclear weapons forces' exercises is not known in detail. The mobile ICBM units within the Strategic Missile Forces have been spending longer periods on combat patrol. They have been on consecutive deployment for up to twenty days (Kristensen and Norris 2013: 75). The estimated number of patrol missions with strategic submarines has, however, decreased after an increase in 2007–2010 (Westerlund and Roffey 2012: 147). Kristensen and Norris (op. cit.: 76) conclude that the four to six Russian SSBN patrols in 2012 may have been insufficient to maintain continuous patrolling. The 'patrol flights' with the Tu-95MS and Tu-160 strategic bombers over the Pacific, North Atlantic and Arctic oceans have continued.

Exercises with sub-strategic nuclear forces may have been part of the Armed Forces readiness drills performed in the first half of 2013. The 12th Main Directorate of the MoD, responsible for storing nuclear warheads and distributing them to their delivery vehicles, was involved in a snap drill in the Central and Southern MDs on 17–21 February 2013, according to Chief of the General Staff Valerii Gerasimov (Litovkin 2013d). It seems that none of the Strategic Nuclear Forces took part, indicating that the MoD may have practised releasing sub-strategic warheads to Air Force units involved in the exercise and possibly also to Black Sea Fleet and surface-to-surface missile units. This is consistent with probable simulated nuclear strikes in operational-strategic exercise scenarios reported in 2009 and 2010 (Westerlund and Roffey 2012: 146). Furthermore, nuclear-capable Su-24M attack aircraft units have also been practising long-range redeployment. In June 2013, Su-24Ms from the Central MD were reported to have flown more than 4 500 (km) non-stop, twice refuelling in mid-air from Il-78 tanker aircraft (Tikhonov 2013a).

In short, Russia's Armed Forces have in recent years systematically exercised all command levels, in all four strategic directions and with all branches and arms of service. The exercises have also regularly had inter-agency dimensions, i.e. involving forces from other ministries. Apart from increasing military capability in the short term, they have also provided ample opportunity to test new structures and identify and rectify weaknesses.

2.5 Assessment of Russian military capability in 2013

This section will discuss Russia's military capability in terms of assets for regular warfare in limited wars and for strategic deterrence. Limited wars denote both local wars, such as that with Georgia in 2008, and regional wars, such as a possible confrontation with China or NATO. The assessment is made for the

four Russian strategic directions: east, Central Asia, south (Caucasus) and west. Specifically, this denotes the resources Moscow can concentrate to address threats in different parts of the vast country. It does not denote actual war-fighting capability since that would involve factoring in possible missions and opponents which are outside the scope of this study. The military resources Russia can amass is more a matter of organisation, manning levels, force disposition and mobility. Russia is primarily a land power and ground operations are therefore key to the definition of military capability used in this study as well as being likely to characterise Russia's operations in limited wars. After outlining the assumptions and estimates made for the analysis, assessments for the different strategic directions are made based on the assets of each MD and possible reinforcements.

A number of assumptions and estimates have been made in the assessment of Russia's military capability to simplify the discussion. First, the assessments concern a war that Russia has anticipated and to some extent planned for. Second, for the assessment of the military capability of a particular strategic direction, it is assumed that the JSC/MD in question commands only one war-fighting operation at a time. Simultaneous operations would reduce available reinforcements for each operation and decrease the potential capability in each strategic direction. Third, Logistics and Rear services are likely to impede, but not hinder, operations. We, therefore, assume that the logistics support is sufficient to launch an operation; sustaining it will be more difficult. A final assumption is that railway and air transports are unhindered.

It should be noted that 'brigade' denotes a standing manoeuvre brigade, i.e. one that is able to seize and hold territory. Divisions and Russia's military bases abroad are counted as brigade-size units.

This section starts by outlining assets that are common to all strategic directions. A brief description of the specifics of each MD then constitutes the basis for the assessment of Russia's available assets in each strategic direction. This includes an assessment of assets for stand-off warfare, with the western strategic direction serving as an example. Finally, strategic deterrence capability is outlined.

2.5.1 Assets for limited wars common to all strategic directions

Command and control

Each strategic direction has the preconditions for commanding joint operations with a JSC in charge of joint inter-service operations. Three years of conceptual and practical work and the JSCs participating in the Russian Armed Forces' annual strategic operational exercises is a basis to develop and test the ability for joint command. The 'surprise exercises' in 2013 were an opportunity to check the whole system for strengths and weaknesses. Identified problems can now be addressed. Each JSC/MD and each army has a command and control support brigade. The armies seem to be able to deploy mobile command functions (Khairemdinov 2013) and the JSC are here assumed to be able to do so too. It is unclear if the armies can plan and command joint inter-service operations (interview, Moscow 2013).

Ground Forces

Each MD has combined-arms army commands (here called armies) to command combined-arms ground operations. Each MD has six to eleven standing manoeuvre brigades and two army commands, except for the Eastern MD which has four army commands. Each MD also has one or two Special Forces brigades and fire support from one multiple-launch rocket system (MLRS) brigade and one or two surface-to-surface missile (SSM) brigades, in addition to fire support brigades in each army.

Each army appears to command one to five standing brigades and has, mainly in the Far East, equipment stores for brigade-size units. Personnel to use the stored equipment can come either from other units in Russia or from the mobilisation reserve. Most armies are supported by a command and control support brigade, an artillery brigade, a surface-to-air missile brigade and an SSM brigade. Each army has also a combat support brigade (McDermott 2013a: 48).

The Western, Southern and Central MDs all have one independent brigade directly under the MD/JSC command (the 27th MRB in the Western MD, the 20th MRB in the Southern MD and the 28th in the Central MD). Located near communication centres (Moscow, Volgograd and Yekaterinburg respectively), these brigades are easy to transport in different directions, making them ideal as possible reinforcements, either in their respective 'home' MD or elsewhere.

Air Force and Air Defence

Each MD has sufficient aircraft to support its own ground operations if they are concentrated geographically and the aircraft are supported with situational awareness and command and control. Air combat operations, and hence also surface operations, are accordingly limited by the cover and endurance of radar and command and control systems on land, at sea or in the air. Each MD has an AFADC, often in the same city as the JSC, a main air base (which here is a unit), one or two subsidiary air bases with altogether some five to ten aviation groups, and two or three Army Aviation groups in each MD. All MDs have both fighter and attack aircraft which enable them both to protect their own territory and airspace and to support ground and naval operations. Each MD has one or two Theatre Air Defence brigades alongside the Air Defence brigades in the Ground Forces' armies that are primarily tasked with protecting ground operations.

Naval forces

Due to the different geographical settings in the four strategic directions, the naval forces' capabilities vary. However, all navies (except for the Caspian Flotilla) have assets for combat operations under water, on the surface, in the air and on land. In land areas close to Russia's shores, the Navy can support a limited-war ground operation by situational awareness, indirect fire support and air defence. It can also support by landing additional forces and by denying the enemy sea access to the area of operations. The Baltic Fleet and the Northern Fleet command air and ground forces since their isolated locations make this expedient.

The Naval Infantry is the main ground force component within the Navy. It has a generally high level of readiness and has therefore – like the Airborne Forces – been deployed in previous ground forces operations, such as the operations

in Chechnya. The Naval Infantry probably still is an asset in operations to seize or hold territory, but the scarcity of available open sources has made a reliable assessment of the units' availability impossible. The Pacific Fleet has one naval infantry brigade and one naval infantry regiment. The Baltic Fleet and the Black Sea Fleet each have a naval infantry brigade. The Northern Fleet has a naval infantry regiment while the Caspian Flotilla has two naval infantry battalions (IISS 2013; warfare.be; Military Periscope). These assets belong to their respective Military District and are noted in the maps.

Sub-strategic nuclear forces

Russia has sub-strategic nuclear forces in all strategic directions (see Table 2.6). There are nuclear-capable short-range ballistic missile brigades and artillery units in all MDs. All fleets include anti-ship missiles and coastal defence missiles with nuclear potential. More importantly, there are attack or bomber aircraft regiments based in each strategic direction. Half of these are furthermore estimated to be able to redeploy to other strategic directions in a matter of a few days. There are nuclear storage facilities available in all strategic directions (see Map 2.5, p. 63) and an estimated minimum of sixty-five operationally assigned sub-strategic nuclear warheads for the delivery vehicles in each MD (Sutyagin 2012: Appendix 1). Furthermore, exercises involving sub-strategic nuclear strikes seem to be continuing.

Capability assessment

Each strategic direction is assessed to be able to conduct the following operations with assets intrinsic to the MD, i.e. without reinforcements. Within a week from an order being given, each MD is able to launch up to a three-brigade-size ground operation on or near its territory with supporting air and naval units. Within one month, the initial size of the ground force can be roughly doubled. Finally, Russia is assessed to have sufficient sub-strategic nuclear warfare capabilities for operations aimed at seizing or holding territory in all strategic directions.

The Airborne Forces

In addition to this each strategic direction can be reinforced by central resources or units from other strategic directions. The primary central asset in this respect is the Airborne Forces. Three divisions and one brigade of the Airborne Forces are assessed to be available as reinforcements all across Russia. As noted in section 2.3.1, one airborne brigade is estimated to be available within a week and one division within a month. Another two airborne divisions are estimated to be available within six months. This applies to all strategic directions and will not be repeated. It is, however, noted in the accompanying tables and maps. Regarding reinforcement from other strategic directions, each direction has to be assessed separately.

2.5.2 Military capability in the four strategic directions

The eastern strategic direction

The Eastern MD seems designed primarily to handle large enemy ground and naval forces. It has four armies; the other MDs have two each. In the east it has nominally large standing units (the 5th and 35th armies; altogether seven MRBs) with stored equipment for another five brigades. In the west, two armies (the 36th and 29th) each have only one standing MRB and stored equipment for one more brigade. The 36th Army also has a standing tank brigade. The 36th and 29th armies are possibly to be reinforced either with full units from the Central MD or by manning brigades with stored equipment. There is also stored equipment for one motor rifle brigade that seems to be subordinated directly to the MD HQ. In the Vostok-2010 (East-2010) operational-strategic exercise it took a unit one week to get equipped from store before going into the exercise, indicating time limitations of this approach, albeit manageable ones (interview, Moscow 2012).

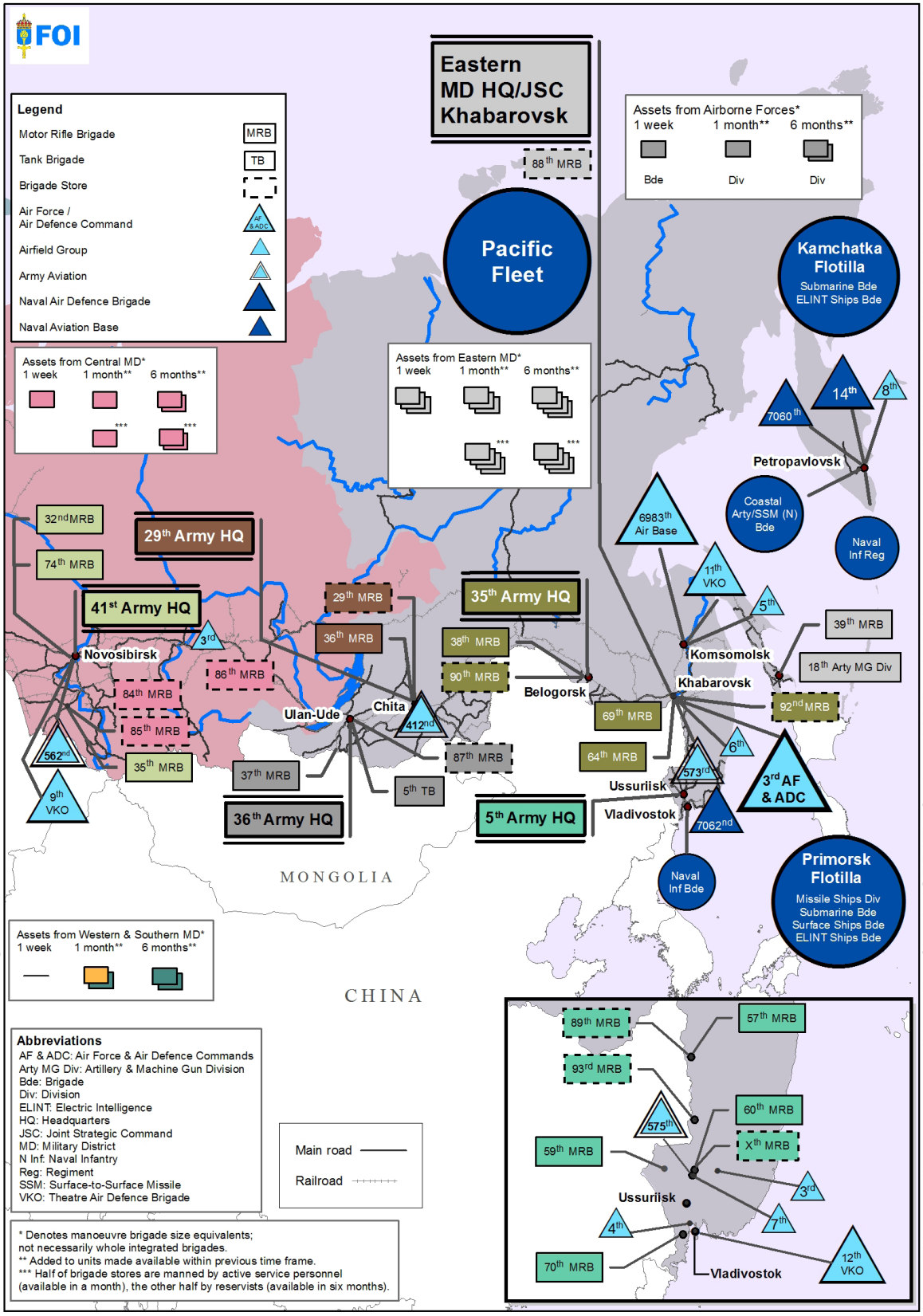
In a scenario with a large ground offensive from the south, the 5th and 35th armies constitute a first defensive echelon supported by MD air, naval and stand-off assets that are supposed to delay the advance until a second echelon (the augmented 29th and 36th armies) can move in, followed by reinforcements from the rest of Russia (a third echelon). Nuclear weapons probably play a central role as a limited war in this direction may involve forces outnumbering Russia's.

Given manning levels, a force sized a third of the Eastern MD's ten manoeuvre brigades is assumed to be available within a week, and another third within a month. In other words a three-brigade-size force is available within a week, and another such a force in a month. More would require mobilisation and would take months. Up to a brigade-size unit can come from the Central MD 41st Army within a week. The Eastern MD can receive personnel or reservists from other parts of Russia to be equipped from the MD's eight own brigade stores or the Central MD's three brigade stores. This will take up to six months and all in all generate up to twenty-nine brigades in the eastern strategic direction.

Table 2.9 The eastern strategic direction – possible assets and reinforcements

Assets from*	1 week	1 month**	6 months**
Eastern MD	3 brigades	3 brigades *4 brigades (store)* ***	4 brigades *4 brigades (store)* ***
Central MD	1 brigade	1 (from 41st Army) 1 *brigade (store)* ***	2 brigades *2 brigades (store)* ***
Western and Southern MDs	Too far away	2 brigades	2 brigades
Total	**4 brigades**	**11 brigades**	**14 brigades**
Airborne Forces	1 airborne brigade	1 airborne division	2 airborne divisions
Total in 6 months: 29 brigades, 3 airborne divisions and 1 airborne brigade			

Note:
* Denotes standing manoeuvre brigade-size equivalents, not necessarily whole integrated brigades.
** Added to units made available within the previous time frame.
*** Half of brigades in store are assumed to be manned by active service personnel (available in a month), the other half by reservists (available in six months).



Map 2.1 Assessment of the eastern strategic direction

Note: This map illustrates a possible order of battle (ORBAT) of selected MoD units in the eastern strategic direction, primarily brigade level and above. It shows approximate locations and cover 2012–2013. Sources: *The Military Balance 2013*; warfare.be; and Military Periscope. See also Chapter 1, section 1.4 for a discussion on these sources.

The Central Asia strategic direction

The Central MD will hardly fight an enemy intrusion from the south on its territory. Mongolia and Kazakhstan are unlikely enemies. It appears more as a strategic reserve to reinforce military capability for limited wars in other strategic directions. Put simply, the 2nd Army (in the western part of the Central MD) can be a reinforcing echelon to the southern or the western strategic directions, and the 41st Army (in the eastern Central MD) to the eastern. Both armies have three standing motor rifle brigades each. Three brigade stores in the eastern part of the MD strengthen the impression of an organisation for sending reinforcements eastwards.

A more immediate task for the Central MD is to be responsible for Russia's Central Asia strategic direction. Key units are the existing Russian assets in the region (the 201st Military Base in Tajikistan and the 999 Air Base in Kyrgyzstan, both under Central MD command). The 2nd and 41st armies are also likely to reinforce an operation in Central Asia. Revealingly, the 28th Motor Rifle Brigade in Yekaterinburg participated in the annual strategic operational exercises in 2009 (West), 2010 (East) and 2011 (Central Asia).

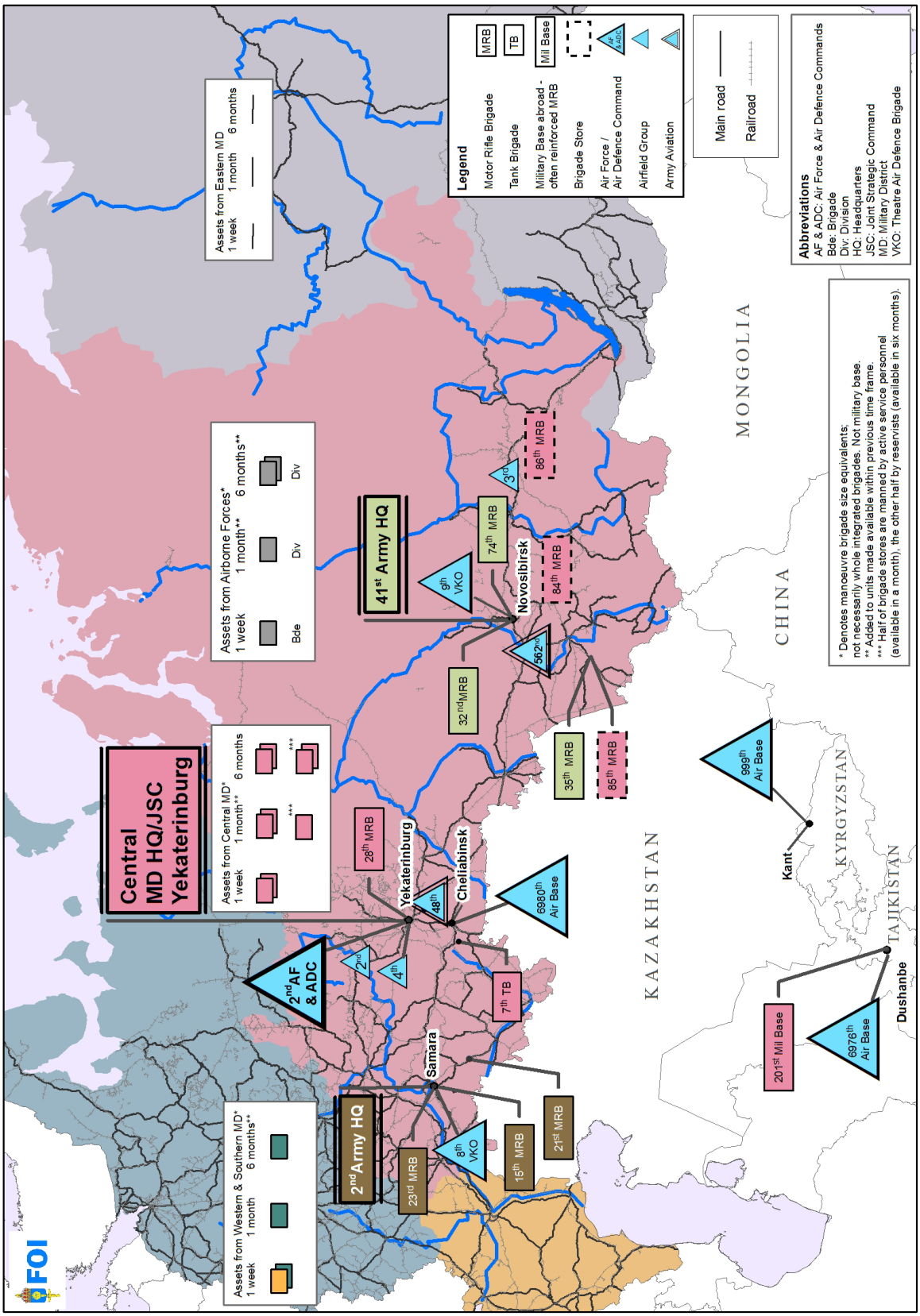
A Central Asia operation is likely to be more of a crisis management operation to create stability rather than to involve high- to medium-intensity war fighting. It is assessed here as likely to require fewer forces, but over a longer time. It is also likely to be conducted within the multinational forces of the CSTO, albeit with clear Russian dominance (Norberg 2013: 16, 21–26). A multilateral CSTO operation is likely to be more complex for Russia than a purely national one. Russia's Airborne Forces are likely to carry the main burden of such an operation, with the Central MD in a supporting role. Half an airborne division is assessed to be available within a week, the rest in a month. If ordered, the central MD can start gathering units, altogether up to two brigades in a week, destined for Central Asia. Additionally, the 201st Military Base represents another brigade size unit available within a week. The transport of these units through other countries requires their political consent, which in some cases could prolong the time before the Russian forces can reach the area of operation compared to transport within Russia.

Table 2.10 The Central Asia strategic direction – assets and possible reinforcements

Assets from*	1 week	1 month**	6 months****
Central MD	2 brigades (1 brigade – Mil. Base)	2 brigades *1 brigade (store)****	2 brigades *2 brigades (store)****
Southern and Western MDs	2 brigades	1 brigade	1 brigade
Total	**5 brigades (incl. 1 Military Base)**	**4 brigades**	**5 brigades**
Airborne Forces	1 airborne brigade	1 airborne division	2 airborne divisions
Total in 6 months: 14 brigades, 3 airborne divisions and 1 airborne brigade			

Note: A Russian military base abroad is counted as a brigade-size equivalent. It is available in its area of operations but is not assessed to be available for operations elsewhere. The assessment for one week refers to units gathered on the Central MD's territory and does not include transports to Central Asia (except the military base).
* Denotes standing manoeuvre unit equivalents, not necessarily whole integrated units.
** Added to units made available within the previous time frame.
*** Half of brigades in store are assumed to be manned by active service personnel (available in a month), the other half by reservists (available in six months).

Map 2.2 Assessment of the Central Asian strategic direction



Note: This map illustrates a possible order of battle (ORBAT) of selected MoD units in the Central Asian strategic direction, primarily brigade level and above. It shows approximate locations and cover 2012–2013. Sources: *The Military Balance 2013*; warfare.be; and Military Periscope. See also Chapter 1, section 1.4 for a discussion on these sources.

The Southern strategic direction

In a near-term perspective, the Southern MD/JSC has the potentially most challenging tasks of all MDs, both in and near Russia. It covers Russia's volatile North Caucasus, and commands Russian forces abroad in the separatist regions of Abkhazia (7th Military Base) and South Ossetia (4th Military Base) in Georgia and Russia's 102nd Military Base in Armenia, where a conflict with Azerbaijan over Nagorno-Karabakh is constantly looming. South of the Caucasus is the wider Middle East where tensions around Iran and the spread of militant Islamism are the two most important concerns of Russia. The JSC in Rostov commands the naval forces of the Caspian Flotilla and the Black Sea Fleet and is likely because of this to play a role for Russia's standing naval force in the Mediterranean Sea.

The Southern MD has priority for equipment and personnel. Most new or modernised equipment seem to be assigned to the Southern MD. Helicopter units are one of few arms of service that actually increased in size during the reform of 2009–2012, which mainly benefited the Southern MD. The Southern MD has high manning levels, at over 90 per cent (see section 2.2.1), and consequently a greater share available units in the short term, compared to other MDs.

The 49th Army's three MRBs constitute a first echelon. The stronger 58th Army (five brigades) would then be a second echelon ready to move in where it is needed most. The Central MD's 2nd Army in Samara (with three brigades) is well located as a possible third echelon. In addition, the 20th Motor Rifle Brigade, subordinated directly to the MD, is likely to be the MD's own reserve or earmarked to be reassigned elsewhere. The volatility of the Caucasus and the potential challenges of supporting bases abroad make it unlikely that additional Southern MD forces will be reassigned elsewhere.

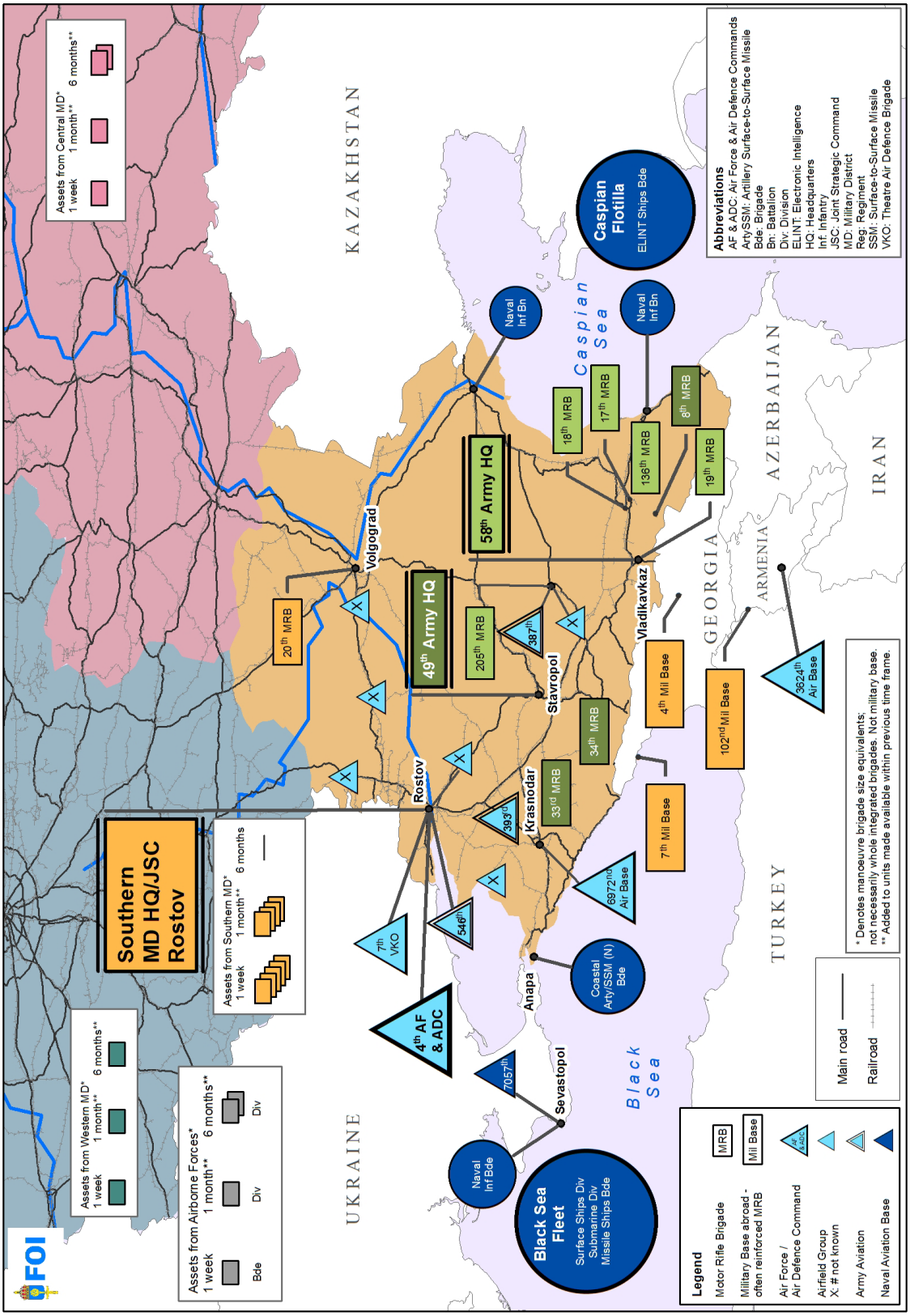
Within a week, high manning levels and comparatively modern equipment probably enable the Southern MD to launch and support a seven-brigade-size ground operation with air and naval support. The Southern MD lacks equipment stores, which indicates an intention to be able to start fighting quickly with available assets. The Central and Western MD can start reinforcing it with a brigade size equivalent force each. Within a month, all of the MD's units are likely to be available for operations.

Table 2.11 The Southern strategic direction – possible assets and reinforcements

Assets from*	1 week	1 month**	6 months**
Southern MD	5 brigades (3 brigades – mil. bases)	4 brigades	
Central MD	1 brigade	1 brigade	2 brigades
Western MD	1 brigade	1 brigade	1 brigade
Total	**10 brigades**	**6 brigades**	**3 brigades**
Airborne Forces	1 airborne brigade	1 airborne division	2 airborne divisions
Maximum in 6 months: 19 brigades, 3 airborne divisions and 1 airborne brigade			

Note: A Russian military base abroad is counted as a brigade-size equivalent. It is available in its area of operations but is not assessed to be available for operations elsewhere.
* Denotes standing manoeuvre brigade-size equivalents, not necessarily whole integrated brigades.
** Added to units made available within the previous time frame.

Map 2.3 Assessment of the southern strategic direction



Note: This map illustrates a possible order of battle (ORBAT) of selected MoD units in the southern strategic direction, primarily brigade level and above. It shows approximate locations and cover 2012–2013. Sources: *The Military Balance 2013*; warfare.be; and Military Periscope. See also Chapter 1, section 1.4 for a discussion on these sources.

The western strategic direction

The Western MD has comparatively strong Air Defence and Air Force units, indicating concerns about enemy air operations against Russia's main industrial and population centres and Moscow. The two-brigade 6th Army and the CSTO Eastern European Group of Forces, presumably including all of the Armed Forces of Belarus, constitute a first, primarily defensive echelon with the significantly stronger 20th Army (two brigades, two divisions) as the second echelon (Norberg 2012: 60–61; Norberg 2013: 16, 21–26). The Central MD's three-brigade-strong 2nd Army in Samara is well located to be a possible third echelon.

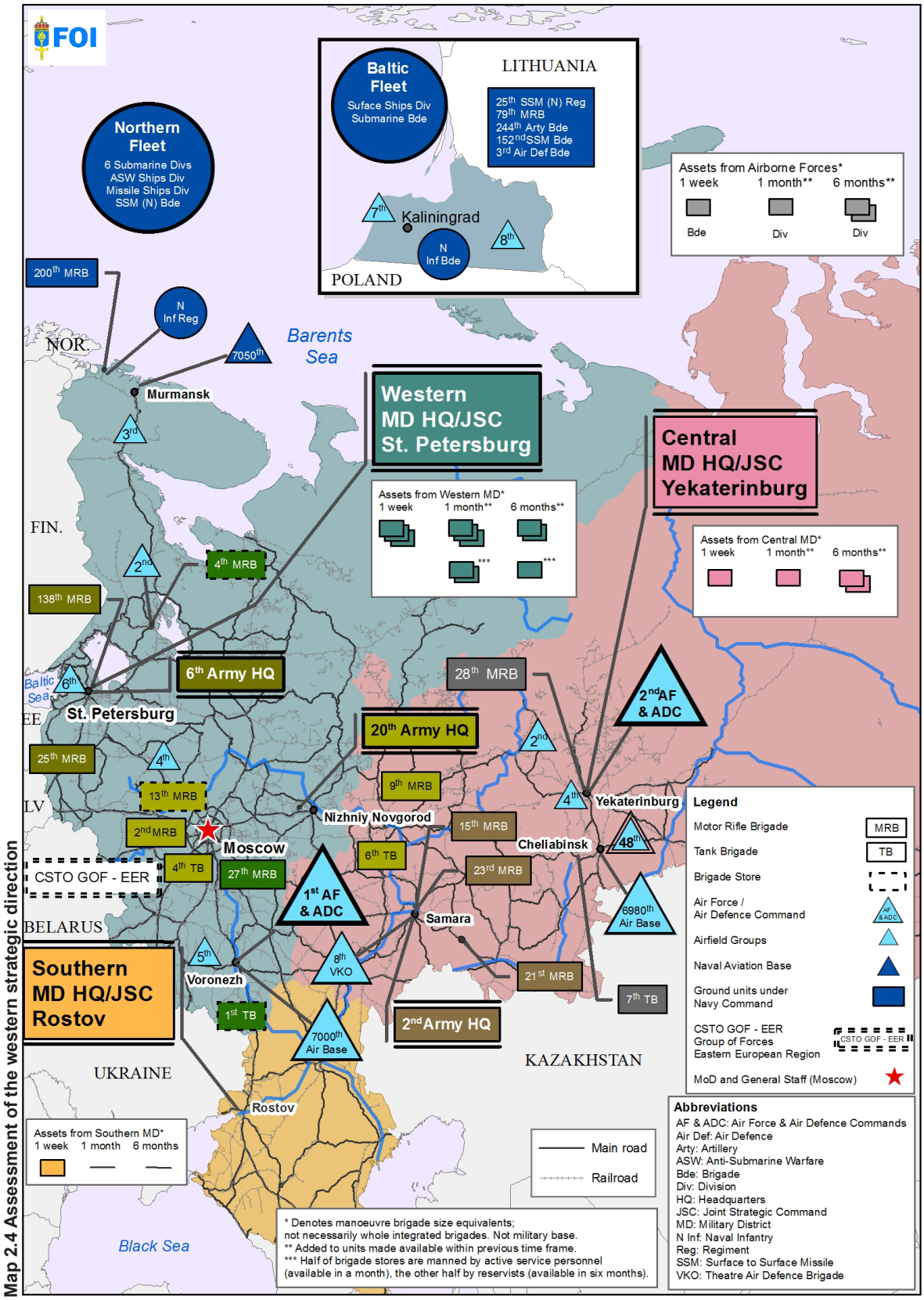
The Western MD has three brigade equipment stores (for two motor rifle and one tank brigade) which give flexibility to increase the number of ground manoeuvre units by only moving personnel, possibly from the neighbouring Central and Southern MDs, or by calling up mobilization reserves. The disposition of the standing brigades indicates that territories between Moscow and Central Europe are in focus. In addition, the 27th Motor Rifle Brigade, subordinated directly to the MD, is likely to be the MD's own reserve or earmarked to be reassigned elsewhere. Units on the Kola Peninsula and in Kaliningrad are primarily tasked with defending Northern and Baltic Fleet installations (Norberg 2012: 57–69). The 79th Motor Rifle Brigade in Kaliningrad is unlikely to be moved elsewhere.

Within a week, the western strategic direction can have up to five brigades available to start a ground operation, including one brigade in Kaliningrad that is unlikely to be moved. Within a month, an additional six brigades are available. Available air and naval assets are sufficient for supporting initial ground operations near Russia given at least air parity. In six months another five brigades are estimated to be available. Mobilisation is probably facilitated here since most of Russia's population live west of the Urals, but the exact effects of this cannot be gauged here.

Table 2.12 The western strategic direction – possible assets and reinforcements

Assets from*	1 week	1 month**	6 months**
Western MD	3 brigades (including 1 brigade in Kaliningrad)	3 brigades *2 brigades (store)****	2 brigades *1 brigade (store)****
Central MD	1 brigade	1 brigade	2 brigades
Southern MD	1 brigade		
Total	**5 brigades**	**6 brigades**	**5 brigades**
Airborne Forces	1 airborne brigade	1 airborne division	2 airborne divisions
Total in 6 months: 16 brigades, 3 airborne divisions and 1 airborne brigade			

Note: The Motor Rifle Brigade in Kaliningrad is available in its area of operations but is not assessed to be available for operations elsewhere in the given time frames.
* Denotes standing manoeuvre brigade-size equivalents, not necessarily whole integrated brigades.
** Added to units made available within the previous time frame.
*** Half of brigade stores are assumed to be manned by active service personnel (available in a month), the other half by reservists (available in six months).



Map 2.4 Assessment of the western strategic direction

Note: This map illustrates a possible order of battle (ORBAT) of selected MoD units in the western strategic direction, primarily brigade level and above. It shows approximate locations and cover 2012–2013. Sources: *The Military Balance 2013*; warfare.be; and Military Periscope. See also Chapter 1, section 1.4 for a discussion on these sources.

Stand-off warfare assets in the western strategic direction

The capability to seize or hold a territory is complemented by the capability for stand-off warfare, i.e. the ability to strike at distances beyond 300 km. Both conventional and sub-strategic weapons – to a large degree delivered by the same launchers – can be used. In the western strategic direction, capabilities are found within naval and air as well as ground units.[6] Necessary support functions – such as intelligence, targeting and global positioning – have been assumed to be sufficient for stand-off warfare operations.

Naval assets

The Northern Fleet has several ships equipped for stand-off warfare. The Oscar II class nuclear-powered guided-missile submarines are estimated to carry up to twenty-four SS-N-19 medium-range anti-ship missiles (ASMs). *Kirov* class cruisers can carry twenty SS-N-19s, while *Slava* class cruisers carry up to sixteen SS-N-12 medium-range ASMs. Both missiles could also be employed against land-based targets (Sutyagin 2012: 45). In 2013, one or two of the Oscar II submarines, one *Kirov* and one *Slava* cruiser were in operation in the Northern Fleet (see Table 2.3). Assuming that one submarine and one cruiser would be fully available within twenty-four hours, in total at least forty plus-500-km-range missiles could be used for a stand-off strike. When the aircraft carrier *Kuznetsov* returns to operations, another twelve SS-N-19s will be available.

Regarding naval sub-strategic nuclear stand-off warfare, the above-mentioned platforms are estimated to carry two or three nuclear warheads each (Sutyagin 2012). The substantial force in this regard, however, is the exclusively nuclear SS-N-21 long-range submarine-launched cruise missile (SLCM) carried by the nuclear-powered attack submarines (ibid.: 44). Assuming that half of those submarines in operation in 2013 (see Table 2.3) are available within twenty-four hours, two *Akula* class and one Sierra II class submarines are estimated to be able to launch up to eight missiles each, while one Victor III class submarine could launch up to four missiles (Sutyagin 2012: 43). In total, twenty-eight SS-N-21 nuclear SLCMs with a 3 000-km range would be available within twenty-four hours.

Ground Forces

The only stand-off weapon system within the Ground Forces is the *Iskander* short-range ballistic missile system, with a range of at least 400 km. In the Western MD, the *Iskander* brigade in Luga, outside St Petersburg, consists of three missile battalions, each with eight missiles carried in pairs on four launchers. Assuming that at least one battalion would be fully operational within twenty-four hours, eight *Iskander* missiles could be used in a stand-off strike. *Iskander* is probably also nuclear-capable, and Sutyagin (2012: 53) estimates there to be between twelve and eighteen sub-strategic nuclear warheads assigned for the brigade.

Long-Range Aviation

Last but not least there are the Air Force stand-off assets within the Long-Range Aviation. It is not a Western MD resource, but a large proportion of the aircraft is deployed there and could be made available to the western strategic direction.

[6] Both the Navy and the Air Force have a number of attack-missile systems with ranges of 100–300 km, some of which are estimated to be nuclear-capable. These have not been considered here, even though they may strike targets beyond 300 km from the front line. The reason is that this requires the firing platform to cross the front line, exposing itself to enemy weapon systems with a range of less than 300 km. Arguably, these weapons therefore do not qualify as stand-off weapons. Attack aircraft such as the Su-24M and Su-34, as well as naval destroyers and frigates, have consequently not been considered here.

The newly-procured Kh-101 air-launched cruise missile (ALCM) is fitted with a conventional warhead and has a range of up to 5 000 km. It is carried by upgraded Tu-160 and Tu-95MS strategic bombers, carrying up to twelve and eight missiles per aircraft respectively (Gordon 2009: 167–168). There is also the Kh-555 conventional ALCM warhead with a range of up to 3 000 km. The Tu-160 can carry twelve such missiles in its internal bomb bays, while the Tu-95MS can carry six (ibid.: 142). The number of upgraded aircraft is not known in detail, but a total of seven Tu-160s and sixteen Tu-95MSs were delivered to the Air Force after modernisation and renovation over the period 2008–2012 (Westerlund 2012: 79; Table 6.3). Assuming that half of these aircraft would be fully operational within twenty-four hours and that half of those could be set aside for a conventional stand-off strike in the western strategic direction, two Tu-160s and four Tu-95MSs could carry a total of between forty-eight and fifty-six long-range ALCMs. The number of available Kh-101 and Kh-555 missiles is not known, but the arsenal may not be big enough for the Armed Forces to be prepared to dedicate some fifty missiles for a stand-off strike.

The Long-Range Aviation also has Tu-22M3 long-range bombers armed with the 600-km-range AS-4 missile. The AS-4 comes in anti-ship, anti-radar as well as nuclear versions. Assuming the same counting rules as for the strategic bombers, up to twenty-six Tu-22-M3s out of the total of 105 could be made available for stand-off warfare within twenty-four hours. Each aircraft can carry one to three AS-4 missiles (Gordon 2009: 138), so that up to sixty-nine missiles could be launched in a stand-off strike against enemy ships or radars. For a nuclear stand-off strike, there seems to be a sufficient number of warheads available for these missiles. According to Sutyagin (2012: 28), an estimated 112 sub-strategic nuclear warheads are assigned for land-attack purposes while another twenty-four are assigned for anti-ship strikes.

Total of stand-off assets in the western strategic direction

In sum, the assets for stand-off warfare in the western strategic direction are estimated to allow for a conventional strike, within twenty-four hours, with up to 117 medium-range missiles and some fifty long-range ALCMs, provided that so many can be set aside. The majority of the medium-range missiles are primarily ASMs, but at least fifty can be used for land-attack purposes. Alternatively, up to eighty-two medium-range missiles and twenty-eight long-range SLCMs are assessed to be available within twenty-four hours for sub-strategic nuclear stand-off warfare. The up to sixty-nine AS-4 missiles make up the lion's share of the medium-range nuclear missiles. The majority of available missiles – both nuclear and conventionally armed – are supplied by the Long-Range Aviation. Accordingly, it seems plausible that the capability for stand-off warfare in the other strategic directions is similar. Allowing some time for preparation, almost double the number of missiles could be made available for a stand-off strike in the western strategic direction. However, that would probably exhaust the stand-off warfare resources – at least temporarily – and it is therefore considered a less likely course of action in a limited war.

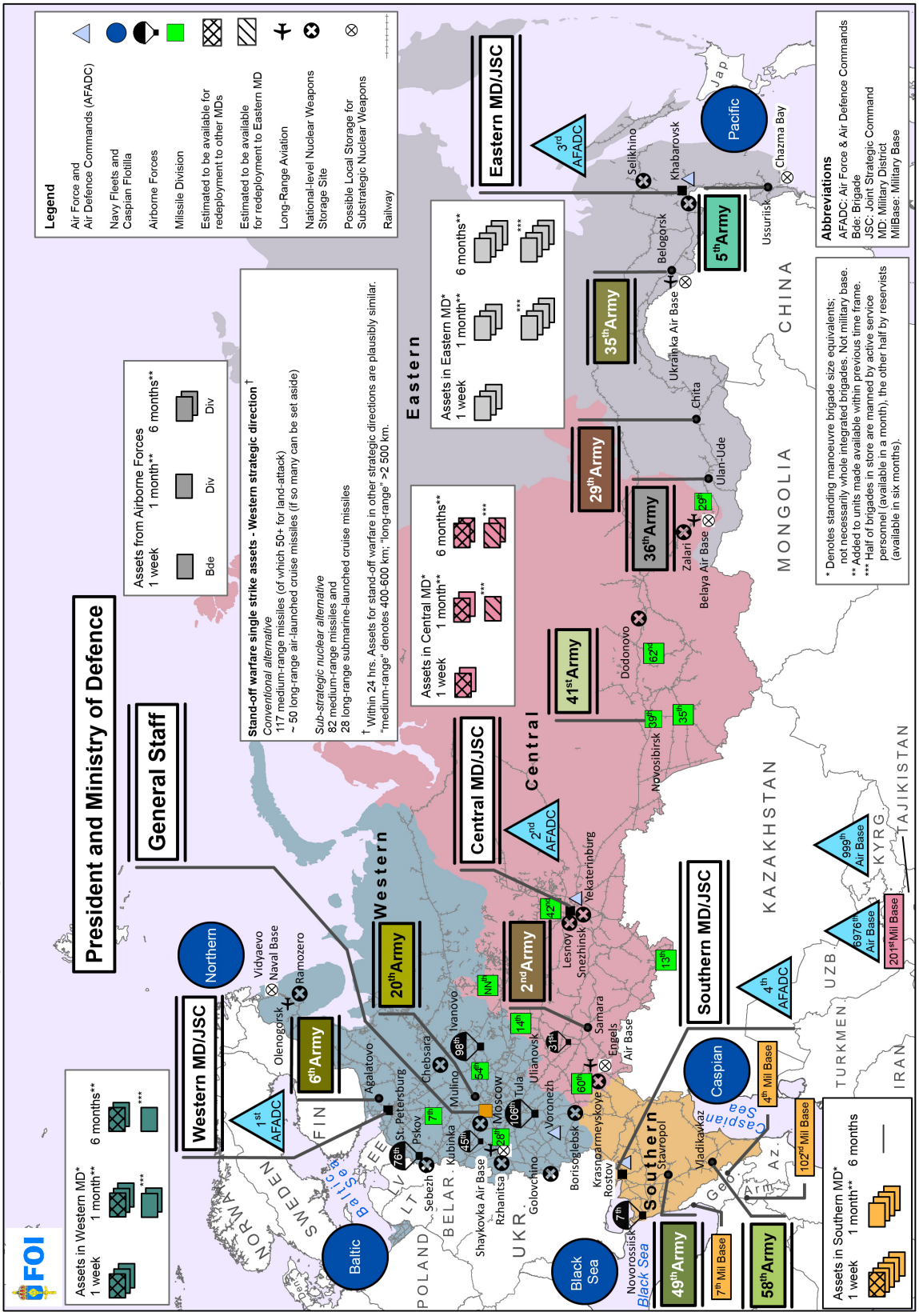
2.5.3 Strategic deterrence capability

The strategic deterrence rests on the credibility of the Russian regular warfare capability as well as on the strategic nuclear strike and counter-strike capability. The latter makes it important also to assess the Russian early-warning system against a nuclear attack. In the previous section, the Russian capability for high- to medium-intensive regular warfare in limited wars was assessed for each strategic direction. The capability for stand-off warfare in the western direction was also assessed. Russia's estimated total assets for regular warfare are illustrated in Map 2.5. Notably, the conventional force capability has improved. Taken together, the regular warfare capability with conventional and sub-strategic nuclear forces is sufficient to contribute to strategic deterrence.

In 2013, Russia kept a substantial operational nuclear force of some 1 800 strategic warheads. These are relatively evenly distributed among the three elements of the nuclear triad, but the Strategic Missile Forces continue to constitute the backbone of the triad since they can sustain a higher state of readiness than the other elements. The fall in sheer numbers of warheads means that the need for mobile platforms has increased in order to maintain a credible second-strike capability. In this regard, Russia is to a great degree still dependent on the strategic submarines, but the number of patrol missions fell in 2012 and may have been insufficient to maintain continuous patrols. Due to the weakened state of the Russian Navy in the 1990s and 2000s, the staying power of Russian strategic nuclear submarines has diminished (Yesin 2012: 233–234). On the other hand, the mobile ICBM units spent longer periods on combat patrol in 2012. When the arsenals of the Long-Range Aviation and the submarine fleet are taken into account, Russia can be said to have a credible ability to establish a second-strike capability. The strategic nuclear strike and counter-strike capability in 2013 is assessed to be a sufficient contribution to strategic deterrence.

There continue to be some deficiencies in the strategic early-warning system. It can nevertheless be said to have a sufficient coverage of US launch areas and the airspace to support the Russian nuclear counter-strike capability. In this context it is worth noting that the level of military-strategic tension between Russia and other great powers continues to be low. In conclusion, the Russian capability for strategic deterrence in 2013 is fully adequate.

Map 2.5 Assessment of Russian military capability in 2013



Note: This map illustrates available assets for high- to medium-intensive regular warfare in limited wars and for strategic deterrence. It shows approximate locations and cover 2012–2013. Sources: *The Military Balance 2013*; warfare.be; Military Periscope (see also Chapter 1, section 1.4 for a discussion on these sources); Norris and Kristensen 2009: 92–4; Ministry of Defence 2013a.

2.6 Conclusions

Improved capability

The ambition of the political leadership to strengthen Russian military capability has already resulted in visible improvements. The on-going reformation and the increased defence spending have led to a greater share of the military resources – in the form of organization, personnel and equipment – being readily available. According to the analysis above, Russia possesses sizeable military assets, as outlined on Map 2.5, p. 63. The increased level and scope of military exercises in the past few years, has improved the capability of the units. Taken together, this allows for a sizeable military capability in 2013. Given the size of Russia, the force disposition reflects a defensive posture, but allows for forces to be concentrated in order to enable offensive operations, though probably not in more than one strategic direction at a time.

The Ground Forces are the core of Russia's military capability in limited wars. In 2013, the Armed Forces can assemble assets for launching a ground force operation equalling up to a four-brigade-size army plus an airborne brigade in any strategic direction within a week. Within a month, Ground Forces equalling up to another army and an airborne division can be available, except in the eastern strategic direction, where all four armies can be deployed with up to eleven additional brigades. Naval and air forces can support ground operations. Significant sub-strategic nuclear assets are also available for supporting operations to seize and hold territory. Moreover, assets for stand-off warfare are substantial. But will this be considered enough? The development of Russia's threat assessments and its debate on future wars will indicate whether current capabilities are deemed sufficient.

Sustainability

A limiting factor for the regular warfare capability is the low level of ability to sustain operations, given the problems associated with the Logistics and Rear Service. The question is how the forces' sustainability in operations will evolve. Three factors are important in this. The first is the demands stemming from the future organisation and equipment, primarily of the Ground Forces. The second is the evolution of the logistics organisation, and the third the scope and frequency of exercises for the Logistics and Rear Services.

Manning the Armed Forces

The manning principle for the Armed Forces' standing organisation remains a hybrid, combining serving and *de facto* mobilisation personnel. Manning levels in 2013 result in roughly two thirds of the standing units being available for operations within a month. The manning levels in the standing units will be decisive for the future availability of units within the one-week and one-month perspectives. The ratio of officers, NCOs, contract-employed soldiers and conscripts within the units will affect war-fighting capabilities and mobility. Furthermore, the evolution of a reserve mobilisation-based organisation will affect capability in the six-month perspective. The major constraints for the future size of Russia's Armed Forces will be its demographic situation and the levels of defence spending.

Equipment

In quantitative terms, the arms and equipment of the Armed Forces are not a severe limitation either for local or regional wars or for strategic deterrence. Russia has enough hardware, albeit primarily Soviet-era products and almost exclusively based on Soviet technology. If Russia intends to acquire a wider spectrum of high-technology warfare capabilities, a substantial share of the current weapons and support systems needs to be modernised. Russia's defence spending and defence industry development will be the limiting factors.

Mobility

Strategic mobility of the Ground Forces depends on the railways. Increased mobility to enable more efficient use of existing assets across Russia would require sizeable investments from both within and outside the MoD. The MoD could invest in a higher share of lighter vehicles, enabling increased use of road transport. Outside the MoD's remit, substantial investments in railway and road infrastructure are necessary. Without them, today's capacity will not significantly increase.

Exercises

Exercises are key to building military capability. There is a strong ambition to further develop joint warfare capabilities. The increased scope of combat exercises has resulted in improving capability in this regard. Continued exercise activity is decisive for consolidating and improving the capability. This depends on the size of the defence spending and the priority of exercises in relation to other areas of expenditure.

Nuclear weapons

As a consequence of these limitations, strategic and sub-strategic nuclear weapons continue to play a vital role in strategic deterrence, both against other nuclear powers and against a conventional attack by a numerically or technologically superior enemy. Sub-strategic nuclear weapons also continue to have a significant role in high- to medium-intensive regular warfare in regional wars, including stand-off warfare. In fighting a local or regional war in a particular strategic direction, significant improvements of forces' sustainability in operations, manning and strategic mobility are needed to enable Russia to deter possible adversaries in other strategic directions without being solely dependent on nuclear weapons.

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3. Security Policy and Military Strategic Thinking

Gudrun Persson

In the wake of the major anti-regime demonstrations in 2011–2012, both the political and the military leadership in Russia apparently sense a great deal of insecurity. In his Annual Address to the Federal Assembly President Vladimir Putin stated that the 'world is on the verge of great changes and even upheavals' (Prezident Rossii 2012). After the financial crisis in 2008, the influential military thinker Makhmut Gareev drew a parallel between the current developments and the situation in 1612, the time of troubles (Bukkvoll 2011: 688–689).

This sense of insecurity permeates current Russian security policy. This policy mainly rests on two pillars, the possession of nuclear weapons and the permanent seat in United Nations Security Council. In addition, its energy resources are an important instrument of Russian security policy.

When it comes to assessing Russia's military capability in a ten-year perspective, this chapter assumes that security policy is a fundamental factor. The armed forces of a country do not exist in a vacuum, but are rather a reflection of the society as a whole. As the historian Michael Howard has observed, 'The military system of a nation is not an independent section of the social system, but an aspect of it in its totality' (Howard 1991:1). The main objective of this chapter is to analyse the current Russian security policy thinking at the strategic level.

The chapter addresses the following questions: What does the current Russian threat assessment look like as it is formulated in official doctrines and key policy speeches? Who are the influential actors in shaping security policy? And what are the implications for security policy?

The Russian definition of national security and security policy is used. The chapter is also based on the notion that official doctrines and key policy speeches reflect real intentions. Whether these intentions can be fulfilled obviously depends on a large number of factors such as economic and domestic developments, international relations etc. Saying is one thing, doing is another. However, the past twenty years have shown that Russia has been consistent in achieving its intentions when the opportunities have come. The creation of a Eurasian Customs Union is a case in point. Its origins can be traced back to 1995 (Dragneva and Wolczuk 2012). The use of Russia's energy resources as an instrument of foreign policy is another example (Oxenstierna and Hedenskog 2012: 125).

The Russian official threat assessment is analysed in part 2 of this chapter, where the current situation in the North Caucasus and NATO's missile defence are treated. Second, in view of the very broad Russian definition of its national security, a few aspects of Russian security policy are examined in

part 3. Domestic, military, and foreign security policies are all vital elements when estimating military capability in a long-term perspective. Section 3.3.1, on domestic security, analyses the policy of patriotism. Section 3.3.2, on foreign security, is devoted to the new Foreign Policy Concept, while in section 3.3.3, on military security, attention is given to the strategic policy of nuclear and non-nuclear deterrence, and the view of future war.

3.1 Security policy in Russia

Definition

The explicit use of the concepts of security policy and national security is fairly new in Russia (*Voennaia entsiklopediia* 1997 Vol. 1: 399). During the Soviet period the national element of security was subordinate to that of social class and the international element (Kokoshin 1998: 194) – at least in theory. It was only at the very end of the existence of the Soviet Union that the term 'national security' began to be used at the political level. During the past twenty years it has become an accepted term, and a number of laws and doctrines define and lay out the strategy for Russia's security policy. The Security Council's homepage lists twenty-nine documents dealing with the national security of Russia (Security Council; see also Vendil Pallin 2012a: 42–44). Furthermore, the President and the Duma have been trying to introduce a law on strategic planning (Cooper 2012). In the wake of the demonstrations of 2011–2012, those efforts have been renewed. The law proposal has been postponed many times since 2006, when the process started. It is currently before the State Duma and is planned to come into force on 1 January 2014. Strategic planning, according to the proposed law, is aimed at achieving 'a stable economic-social development of the Russian Federation and a strengthening of national security' (*O gosudarstvennom* 2012).

The legal basis for 'national security' is the Constitution, the federal laws 'On Security' and 'On Defence', the Military Doctrine and other doctrinal documents (*Voennaia entsiklopediia* 1997 Vol. 1: 399). The National Security Strategy for Russia until 2020 (2009) is the most important document of all the official doctrines, which is made clear in the federal law 'On Security', article 4:3 (*O bezopasnosti* 2010) and the National Security Strategy itself (§ I:4). A new version of the Strategy is due in 2014 according to current plans (*Ob osnovakh* 2009).[7]

The notion of 'national security' is defined broadly. The National Security Strategy for Russia until 2020 encompasses nine different areas: (1) defence, (2) security of the state and society, (3) higher living standards, (4) economic growth, (5) science, technology, and education, (6) healthcare, (7) culture, (8) ecology, and (9) strategic stability and strategic partnership. 'National security' is defined as 'the protection of the individual, society and the state from domestic and foreign threats, which in turn ensures constitutional rights and freedoms, an appropriate quality of life for citizens, sovereignty, territorial integrity and stable development of the Russian Federation, the defense and security of the state'.
The law 'On Security' (article 4:1) defines security policy as being a part of both

[7] This presidential order is classified but found its way, apparently by mistake, onto the Internet. See Cooper 2012: 4.

domestic and foreign policy. It involves a whole range of measures: political, organisational, socio-economic, military, judicial, informational, special and other measures (*O bezopasnosti* 2010). Defence as well as state and societal security are the basic priorities of national security (National Security Strategy: § 23).

For the purposes of this chapter certain restrictions as to its scope are necessary. The threat assessment will mainly be derived from essential doctrines, such the National Security Strategy, the Military Doctrine, the Foreign Policy Concept, the Strategy of State Nationality Policy, and important speeches by the president and influential policy makers. A novelty this year is the Defence Plan (*Plan oborony*) which was signed by the president at the end of January 2012. This document allegedly involves forty-nine different ministries, and the content is secret (Prezidentu predstavlen 2013; Golts 2013a).

Decision making

It is perhaps an irony that in spite of the broad definition of national security – involving most parts of society – policy decisions involve only very few individuals. There is practically no parliamentary oversight (Vendil Pallin 2012a: 55), since national security policy is the responsibility of the president. Public debate on, for instance, defence policy is practically non-existent (Karaganov 2013a). However, when it comes to preparing the doctrinal documents a fairly large number of ministries and agencies are involved. This process is coordinated by the Security Council, which makes it, together with the president, a key player. The permanent members of the Security Council meet once a week. It is headed by the president, and currently has thirteen permanent members, including the prime minister, the minister of defence, and the foreign minister. There are four committees in the Duma involved in security, foreign, and defence policy. In the advisory Civic Chamber there is a committee dedicated to national security problems and the socio-economic life of conscripts and servicemen.

It should be noted that decision making in the national security sector is not necessarily different from Russian policy making as a whole. The researcher Nikolai Petrov notes that Russian decision making at the federal level suffers from several ailments. There are no formal formats to represent the interests of the major elites, which limits the opportunities to find a compromise.[8] Decisions are based on bilateral rather than multilateral communication (Petrov 2013). In addition, the weakness of the political parties and the Duma, and the strong state control over the media, make feedback in the system very weak. According to Petrov, it takes a long time for a signal to reach the top and then come back.

Security and intelligence services

Apart from the Armed Forces, the security and intelligence services are important tools in achieving national security objectives (*Voennaia entsiklopediia* 1997 Vol. 1: 399). The development of these services merits a report in its own right (Vendil Pallin 2006). Here, a few things need to be highlighted.

The mandates for both the FSB (Federal Security Service) and the Interior Troops have increased. The Interior Troops have been given the right to recruit

[8] On the elites, see for instance Petrov 2013 and Minchenko Consulting 2013.

contract soldiers (*Kommersant* 2013a). Previously this was done through the military commissariats. At the same time, the Interior Troops are to conduct the medical examinations of contract officers applying to the FSB, the FSO (Federal Protection Service) and the SVR (Foreign Intelligence Service).

The FSB has been given extended legal support for stationing officers abroad on a permanent basis (Soldatov 2013; *Kommersant* 2013b). They are to work with these countries' security services to 'combat international crime'. Abkhazia, South Ossetia and Kyrgyzstan are specially mentioned, but it is underlined that similar deals will be made with other countries. Furthermore, FSB personnel were given a 40 per cent pay rise as of 1 January 2013 (Zasedanie kollegii 2013). The extended mandates can partly be explained by preparations for the Winter Olympics in Sochi in 2014 but, perhaps more importantly, they reveal the use of security and intelligence services in executing security policy – both domestic and foreign.

3.2 Threat assessment – the view from Moscow

What, then, does the threat look like? Ultimately, the purpose of the Armed Forces reflects and is justified by the perceived threat. A close reading of the National Security Strategy, the Military Doctrine, the Foreign Policy Concept, and a number of key speeches, not least the president's Annual Address to the Federal Assembly, reveals the following perceived external threat assessment.

- NATO expansion;[9]
- missile defence;[10]
- regional and local wars on Russia's borders;[11] and
- terrorism and radicalism.[12]

The internal threat assessment can be summarised in the following points.

- Violations of the unity and the territorial integrity of the Russian Federation;[13]
- attempts to change the constitutional structure of the Russian Federation by force;[14]
- economic instability as a result of the financial crisis and the changing energy market;[15] and
- foreign intelligence services, foreign organisations and terrorism.[16]

It should be added that the Russian leadership has a geopolitical view of the world, which influences the current foreign and security policy. Influence in the world is seen as a zero-sum game, where 'you win, I lose' characterises the

[9] See for instance Military Doctrine 2010: § 8a; National Security Strategy 2009: § 12.
[10] National Security Strategy 2009: § 17, § 30; Foreign Policy Concept 2013 § 32e, § 70.
[11] Military Doctrine 2010: §§ 7–8; Putin (2012b).
[12] National Security Strategy 2009: §§ 1, 36; Military Doctrine 2010: § 8k.
[13] National Security Strategy 2009: §§ 1, 21; Foreign Policy Concept 2013: § 4a; 32r.
[14] National Security Strategy 2009: §§ 1, 21; Military Doctrine 2010: § 9a.
[15] Foreign Policy Concept 2013: §§ 5, 11, 12; Prezident Rossii 2012.
[16] National Security Strategy 2009: § 37.

mindset (Morozova 2009: 671; Karaganov 2013b). Vladimir Putin wrote in his pre-election article on foreign policy that Russia will act on the basis of 'the current geopolitical reality' (Putin 2012a), and the Foreign Policy Concept (2013) talks of 'profound shifts in the geopolitical landscape'.

Whether the perceived threats are based on real facts or imaginary facts that are deemed necessary for purposes of domestic politics is a fair question. It is also a question that is constantly debated among contemporary analysts and academics (Valdaiclub 2013; Arbatov 2013). What is clear, however, is that the threats – as formulated in doctrines and key public speeches – convey important information about the attitudes of the current political leadership, even if they do not reveal how the regime will deal with them at the policy level (Shlapentokh 2009: 306).

The North Caucasus

One of the most important issues at the domestic security level is – and continues to be – the North Caucasus. There are no indications that this will change (Hedenskog 2011). In 2012 the number of casualties in the armed conflicts there was estimated at 1 225, and in 2013 (up to 14 July) at 533. According to Emil Pain, Professor at the Higher School of Economics in Moscow, in recent years the conflict has become increasingly territorial as well as ethnic and religious (*Kavkazskii uzel* 2013). Russian media are increasingly reporting on ethnic tensions in the southern region of the Russian Federation.[17]

The risk of an escalation of the conflict is still high (Hedenskog 2012). Currently the Interior Troops dominate on the ground together with some FSB units. An escalation of the conflict would, according to the Military Doctrine, affect the Armed Forces (Military Doctrine 2010: § 27a).

NATO's missile defence

The issue of missile defence continues to be one of the thorniest in the relations between Russia and NATO (Hedenskog 2012; Westerlund 2012a). The fact that the USA, in March 2013, decided to abandon the plans to develop a next-generation small-size long-range ballistic missile interceptor – thereby reducing the potential future reach of the NATO missile defence systems stationed in Poland and Romania – did not change the situation. According to Russia, the missile defence system as such upsets the global strategic balance, and threatens Russia's strategic nuclear capability (Putin 2012a; Putin 2012b). The significant differences of opinion between the parties remain. The talks on the coordination of a European missile defence system within the framework of the NATO-Russia Council have been fruitless. The lack of success can partly be explained by the complexity of the issue, which encompasses organisational and technical matters, foreign policy and military-strategic aspects. Aleksei Arbatov concludes that both sides, especially Russia, have underestimated the complexity of cooperation on missile defence (Arbatov 2012). Russia's position on the issue illustrates its sense of both strategic and technological vulnerability (Nygaard and Hakvåg 2013).

[17] See for instance *Kavkazskii uzel* between 1 January and 14 July 2013.

3.3 Security policy in practice – a few aspects

Based on the broad definition of security policy and the perceived threat assessment, a few aspects of the policy will be studied here. Since the focus of this report is on estimating Russian military capability in a ten-year perspective, the aspects chosen are those that are vital to that long-term capability.

3.3.1 Domestic security

The domestic situation interacts closely with general security policy development. In fact, it is very difficult or perhaps impossible to disentangle the interaction of these policies (McFaul 1997; Shlapentokh 2009).

In the wake of the anti-regime demonstrations in 2011–2012, the Russian political leadership prepared a number of federal laws and other measures that were systematically implemented after the inauguration of Vladimir Putin as president. They were aimed at limiting the right to demonstrate and the freedom of expression. The laws include heftily increased fines for demonstrating without permission. Non-governmental organisations have to register as 'foreign agents' and a new law has broadened the actions that can attract treason charges – to mention but a few elements (Svanidze 2013; Human Rights Watch 2013: 460–469). These laws clearly reflect the perceived vulnerability and uncertainty of the current political leadership.

Patriotism

The policy of patriotism is closely linked to military issues and has implications for the future development of the Armed Forces. History is a topic with a bearing on national security according to the Russian National Security Strategy. Russian nation building today rests on a few pillars – a strong state, strong armed forces, and a strong Orthodox Church (Persson 2012).

Furthermore, the current political leadership in Russia is trying to develop a 'national idea' under the title of patriotism. This has been a long-term strategy: as early as the 1990s Boris Yeltsin organised a competition on the theme of a 'Russian idea' in search of a national identity. Vladimir Putin has been more persistent, and recently the aims of these efforts have become clearer (March 2012).

Since 2001 federal national programmes to support 'patriotic education' have been running on a five-year basis. A large number of ministries and government agencies are involved in these programmes, which involve everything from supporting patriotic projects in libraries and on the Internet, to military sport events and competitions. The objective of the latest programme (covering the years 2011–2015) is to create 'a renaissance for spirituality, social-economic, political stability, and national security' (Patriotic programme 2010).

In October 2012, an administrative unit was added to the domestic policy department of the Presidential Administration, with the task of drawing up guidelines for 'patriotic education' (Ukaz 2012). To underline the urgency of this work, during 2013 similar units are to be set up in every one of the eight

major regions (*Kommersant* 2013c). Russian commentators have interpreted the creation of these units as a way of creating a state ideology (Eggert 2012). The effect of these measures is hard to estimate at this point, but they clearly illustrate the intentions of the political leadership.

The use of history has become an increasingly important strategy for nation building in today's Russia, and the victory in the Great Patriotic War (1941–45) is being given an exceptional place (Persson 2011; Torbakov 2011). The National Security Strategy stipulates that 'attempts to revise the history of Russia, her role and place in world history' have a negative influence on Russian national security (National Security Strategy § 81). In the newly adopted Foreign Policy Concept one of Russia's objectives is to 'strongly counteract /…/ attempts to rewrite history using it to build confrontation and provoke revanchism in global politics and to revise the outcomes of the Second World War' (§39z).

In February 2013, Putin ordered the Ministry of Education to create new history textbooks for schools that should contain a single interpretation of Russian history. He underlined that the new textbooks should not contain any 'contradictions or double interpretations' (*Perechen* 2013; *Istoriko-kulturnyi standart* 2013). The new textbooks should be ready by 2015.

An important part of the 'patriotic' efforts touches on both history and the military. The Russian Military-Historical Society was re-founded in March 2013 (it was originally founded in 1907 and disbanded in 1917). In line with this policy, the historical names of the imperial Preobrazhenskii and Semenovskii regiments have been added to modern military units: the 154th Independent Commandant's Regiment has added Preobrazhenskii to its name, and the 1st Infantry Separate Regiment has added Semenovskii (Prezident Rossii 2013a; Prezident Rossii 2013b). In July 2013, the Russian Ministry of Defence announced the creation of a unit in the Armed Forces with the task of combating the 'falsifications of history' (Persson 2013). The company is to specialise in the history of the Second World War, and to 'work out irrefutable arguments against historical falsifications that are multiplying today both within Russia and abroad', according to Vice-Minister of Defence Nikolai Pankov (*RIA Novosti* 2013).

The policy of patriotism is related to the role of the Russian Orthodox Church (Scherrer 2013). This development could be called 'spiritual and moral security' (*dukhovno-nravstvennaia bezopasnost*) which is a phrase that is coming to be used more frequently in Russia. For the past two decades the Russian Orthodox Church has visibly returned to the higher spheres of political power. The president clearly allows it a position of primus inter pares (Anderson 2007: 198). The emphasis on Orthodoxy also has a concrete connection to the Armed Forces (*Rasshirennoe* 2013; Golts 2013b).

The Church signs formal treaties with other government agencies, such as the Armed Forces, police, migration service, etc. This gives it a much wider access to power than the other religions or denominations enjoy. Since 1995, the Church

has had a special department for the relationship with the Armed Forces and the law enforcement agencies (*Sinodalnyi otdel*).

Apart from the visibility of the Church in public life, an important decision was taken by President Dmitrii Medvedev on 21 July 2009, when he decided to reintroduce religious officers in the Armed Forces (*Stenograficheskii otchet* 2009; *Obrashchenie liderov* 2009). It is important to note that representatives of all the 'traditional' faiths (i.e. Orthodoxy, Islam, Judaism, and Buddhism) signed a letter expressing gratitude to the president on that day. Four years later, in February 2013, a total of forty-two religious commanders had been appointed to the Armed Forces; forty of them were Russian Orthodox, and two were Muslims (*Pravoslavie* 2013). There are another 150 positions earmarked for religious commanders.

In addition, the policy of patriotism entails an ethnic trait. Emphasis is placed on the Russian people, and the Russian language. This becomes evident also in the Strategy of State Nationalities Policy to 2025, adopted on 19 December 2012 (Nationalities Policy 2012). It states that the 'Russian nation (multinational peoples of the RF) was created thanks to the unifying role of the Russian people'. The strategy is clearly aimed at countering the developments of the 1990s, when regions aimed at greater independence from Moscow. The perceived threat of 'disintegration' is now to be handled through the new strategy. This is a treacherous path, and there are limits to how much this nationalism has been officially encouraged (March 2012; Enerud 2013).

3.3.2 Foreign security

The new Foreign Policy Concept

The basis for Russian power in foreign policy mainly rests on two pillars: permanent membership in the UN Security Council and nuclear deterrence. Russia's energy resources are also a vital instrument of the policy. The new Foreign Policy Concept demonstrates this explicitly (Foreign Policy Concept 2013). The importance Russia ascribes to the UN and the Security Council is mentioned throughout the document, and weight is put on US–Russian negotiations on limiting the two countries' strategic arsenals.

Among the first decrees signed on the very day of Vladimir Putin's inauguration was one ordering the revision of the Foreign Policy Concept from 2008. On 12 February 2013 the new Foreign Policy Concept was signed by the president. Regarding the NATO missile defence system, the demand for 'legal guarantees' that the system is not to be directed against Russia is now written into the Concept (§ 70).[18] This means that the room for manoeuvre and compromise is limited.

Among new threats the document lists – as before – the proliferation of weapons of mass destruction and their carriers, and international terrorism. International crime, including illegal immigration and piracy, is given more emphasis, whereas

[18] The paragraph numbers in this section refers to the new Foreign Policy Concept 2013, unless otherwise indicated.

climate change and pandemics are downplayed. A new factor in international politics, according to the Concept, is the use of soft power.[19] On the one hand, soft power can be used as a complement to classic diplomacy. On the other, there is a risk of soft power being used as a tool to intrude into the domestic affairs of states, through 'among other things to finance humanitarian projects and projects relating to human rights, abroad' (§ 20). Clearly, the definition of 'soft power' used here is not the traditional one of increasing the country's power of attraction, but a rather different one. Vladimir Putin defines it as 'instruments and methods to achieve foreign policy objectives without the use of weapons – information and other levers of influence' (Putin 2012a). The view of the Internet as a threat to national security has also affected the Russian efforts to reach an international convention for information security (Franke and Vendil Pallin 2012: 62ff; Giles 2013).

The document states that the threat of large-scale wars, including nuclear war, has decreased. However, it points out that new types of weapons undermines the structure of global security (§ 7).

An implicit fear of the break-up of the Russian Federation colours the threat assessment. According to Dmitrii Trenin, the new Foreign Policy Concept shows that 'the trauma of the fall of the Soviet Union is very much alive' (Trenin 2013a).

The Concept is anti-Western and anti-American in its tone. For instance, it demands an 'expansion of the legal framework of international cooperation to better protect the rights and the legal interests of Russian children abroad' (§ 39n). This clearly refers to the public dispute over adoptions which eventually led to a Russian ban on adoptions to the USA, which was the Russian 'asymmetric' response to the Magnitsky law. It also refers to other countries at odds with Russia over adoption rights. The document also states that 'Russia will work actively to counter the introduction of one-sided extraterritorial sanctions by the USA against Russian judicial and physical persons' (§ 69). These two paragraphs also illustrate the interaction between Russian domestic policy and foreign policy.

Whereas the Foreign Policy Concept of 2008 declared the legacy of the Cold War to have been overcome in international relations, the current view from Moscow warns of the growing 're-ideologisation' in world relations (§ 14).

A main worry in the document is Afghanistan and the withdrawal of the international combat forces. The document states that this 'is a serious threat to the security of Russia and other states – members of the CIS [Commonwealth of Independent States]' (§ 91). In the document from 2008 the wording was milder: 'The deepening crisis in Afghanistan is a threat to the security of the southern borders of the CIS' (Foreign Policy Concept 2008: § 21).

[19] See also Sherr 2013.

The strengthening of cooperation within the Customs Union, the Eurasian Union, and the CIS is the current regional priority. The Collective Security Treaty Organization (CSTO) is said to be 'one of the most important elements of the current security system in the Post-Soviet space' (§ 47). Russia has had high ambitions for this organisation for many years (Norberg 2013).

Even though the document notes the growing potential of the Asia-Pacific region on the world scene, there are few details on how Russia should meet the challenges from the region in general and from China in particular. This absence of China is noticeable in the other doctrines and strategies as well (Monaghan 2013). The Foreign Policy Concept mentions the challenge of the military-political situation in Asia, and the potential for conflicts in view of the growing military arsenals and the proliferation of weapons of mass destruction (§ 76). Whether this absence of China indicates the lack of a strategic agenda (Trenin 2013b) or is due to other reasons is an open question (Berryman 2012: 540). Only rarely is China described as an explicit military threat (Khramchikhin 2013).

To sum up, Russia's foreign policy is to a large extent determined by its domestic needs, such as economic and political development, and the international situation (Allison 2013: 18ff, 217ff; Trenin 2011). In view of this, the trend at the moment is clear: Russia is taking the path of 'strategic solitude' (Karaganov 2012). This does not mean isolation, but the national interest in international relations is emphasised (Lavrov 2012). The focus of cooperation lies within the Customs Union and the planned Eurasian Union.

3.3.3 Military security

In recent years the chiefs of the General Staff have expressed concern that Russian military thinking is years behind that of the leading states. Partly in recognition of this problem, a Military Scientific Council, led by Andrei Kokoshin, former secretary of the Security Council, was created in April 2011 (*NVO* 2011). Its task is to give advice on military-technical issues and defence policy. Yet another platform for military thinking was created in October 2012 – the Advanced Research Foundation, a service equivalent to the American Defense Advanced Research Projects Agency (DARPA), headed by Andrei Grigoriev (*O Fonde* 2012; Ukaz 2013).

In spite of the fact that the old Soviet military strategy has not yet been replaced by a new Russian one (Vendil Pallin 2012b: 17), there is a lively debate among military thinkers about current changes in the art of war, what future wars might look like, and what lessons are to be learned. The main platforms for these discussions are the General Staff, the Military Academy, and the military media (Bukkvoll 2011: 684–687). Important sources for this debate are *Voennaia mysl*, the monthly journal of the General Staff; *Nezavisimoe voennoe obozrenie*; *Voenno-promyshlennyi kurer*; the daily newspaper of the Ministry of Defence, *Krasnaia zvezda*; and the material on the website on future warfare (http://futurewarfare.narod.ru/).

Non-nuclear and nuclear deterrence

Strategic deterrence – with an emphasis on nuclear deterrence – is still at the centre of Russian military strategic thinking. However, some Russian military theorists are starting to look beyond nuclear deterrence. Andrei Kokoshin is perhaps the most eloquent writer in this area. Today, there is no alternative to nuclear deterrence, he argues, but important changes are needed. 'Excessive confidence in nuclear deterrence in national security policy is detrimental and even dangerous for Russia,' he writes (Kokoshin 2011: 58). Non-nuclear deterrence, according to Kokoshin, involves high-precision long-range conventional weapons, weapons based upon new physical principles, and highly advanced information and communication systems. Possessing such capabilities would be an important 'means of preventing escalation dominance' by an adversary during 'an acute political and military crisis' (Kokoshin 2012: 28). Kokoshin (2012: 20–21) also argues that a formula of non-nuclear deterrence should be conceptualised in Russia's Military Doctrine and in other plans regulating the Armed Forces.

In official documents, there are four defence-related areas in which nuclear weapons are given a role (Westerlund 2012a).

- Maintaining and supporting Russia's claim to the status of a global great power,[20]
- maintaining 'global strategic stability',[21] through parity with the US in strategic offensive weapons,[22]
- maintaining strategic deterrence against attacks on Russia or its allies,[23]
- and, defending Russia in the event of military attack.[24]

In the current Military Doctrine, strategic deterrence is one of the most important tasks for the Armed Forces in peacetime (§ 27b). The Doctrine also states that Russia can use nuclear weapons in response to a nuclear attack on itself and/or its allies or an attack with conventional weapons if it is directed against the Russian state order (§ 22). But this is not all. The 2010 Military Doctrine was accompanied by a document entitled 'Principles for Government Policy in the Field of Nuclear Deterrence, up to 2020', which was adopted at the same time but was not published. This document may be assumed to contain large parts of the Russian nuclear doctrine.

In addition, key speeches and declared positions of the political leadership reveal several more areas where nuclear weapons are given a security policy role (Westerlund 2012a: 136–140; 2012b).

[20] National Security Strategy 2009: § 21.
[21] National Security Strategy 2009: § 24.
[22] National Security Strategy 2009: § 96.
[23] National Security Strategy 2009: § 26; Military Doctrine 2010: §§ 16 and 22.
[24] Military Doctrine 2010: §§ 22 and 27.

Future wars

For the past twenty years, Russian military theorists have had to re-think whether the art of war has in fact changed. They are not alone in this, and military thinkers all over the world are concerned with these issues. It is beyond the scope of this chapter to analyse this lively debate in detail. However, it is clear from the Russian debate that this is a very hot topic, and one that goes to the core of the Armed Forces.

Russian military thinkers are acutely aware of the current complexity of armed conflicts. Not least, the fact that the number of soldiers is shrinking has forced Russian theorists to re-think. In the current Military Doctrine four different kinds of military conflicts are listed: large-scale wars, regional and local wars, and armed conflicts (§ 6g). Contemporary military conflicts are characterised by, among other things, an integrated use of military force and non-military means, and a heightened role for information warfare (§ 12). Particularities of contemporary military conflicts are said to be the unpredictability with which they begin, and the presence of a broad spectrum of military-political, economic, strategic and other objectives (§ 13).

In the future, military conflicts, according to the Military Doctrine, will be distinguished by speed, selectivity, a high level of target destruction, rapidity in manoeuvring troops (forces) and firepower, and the utilisation of various mobile groupings of troops (forces). Possession of the strategic initiative, the preservation of sustainable state and military command and control, and the securing of supremacy on land, at sea, and in the air and outer space, will become decisive factors in achieving objectives (§ 14). The Doctrine also foresees that the significance of precision weapons will increase, as well as the importance of electromagnetic, laser, and infrasound weaponry, information management systems, remotely piloted aerial and autonomous maritime vehicles as well as remotely guided, automated types of arms and equipment (§ 15).

The chief of the General Staff, Valerii Gerasimov, has pointed out that the Arab Spring might be an example of wars in the 21st century, and that there are important lessons to be learned from the recent conflicts in North Africa and the Middle East (Gerasimov 2013). He noted that the rules of war have changed dramatically. Non-military means are now much more effective than the power of the gun in achieving political and strategic objectives. In Gerasimov's view, the use of political, economic, information, humanitarian and other non-military means has influenced the 'protest potential of the population'. The character of future wars is one without immediate contact on a battlefield. 'What do we do against an entirely robotised enemy?', he asked. In connection with asymmetric warfare, he proclaimed that Russian military science lags behind that of the US. He noted that a new military theory is needed.

Another area where the Armed Forces need to improve is post-conflict solutions. Regulations need to be developed between a large number of ministries about who does what, not least in the Armed Forces. More research is needed, Gerasimov said, on joint operations and the potential of integration (Gerasimov 2013).

The way forward for the Russian Armed Forces is clearly the adoption of command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) (McDermott 2013). But Russia is lagging behind from a technological point of view. Dmitrii Rogozin, vice-prime minister with responsibility for the military industry, has pointed out that Russia is at risk of 'oversleeping the current revolution' in military technology (Ptichkin 2013). It can be argued that one of the reasons for the sense of insecurity and vulnerability stems from the acknowledgement of a big technological gap between Russia and other countries.

Even a traditional thinker like Makhmut Gareev emphasises the complexity of modern warfare (Gareev 2013). He also realises that nuclear deterrence is becoming obsolete (Gareev 1998: 70–74), but sees no alternatives. As for future wars, he does not exclude the use of tanks, for instance. In Desert Storm in 1991, he claims, more than 10 000 tanks were used, which is considerably more than the Soviet Union used in taking Berlin in 1945, when 6 300 tanks were used (Gareev 2013). Gareev stands for a more traditional view of the Armed Forces, and still argues for adaptation to modern warfare. In that sense, Gareev's view reflects both the uncertainty and to some extent the current dilemma in Russian military thought.

3.4 Security policy in a ten-year perspective

In view of the threat assessment analysed in this chapter, it is clear that the political leadership in Russia senses insecurity and vulnerability – both domestically and internationally. This declared insecurity largely stems from a realisation of technological inferiority – which affects the security policy.

Since Vladimir Putin returned to the presidency in 2012 some modifications to Russian security policy can be discerned. It is more anti-American than before and clearly more authoritarian at home. The objective for Russia 'is to be strong and to increase its authority in the world', as Putin has claimed (Chernenko 2013). The policy of patriotism and the focus on 'traditional values' show that Russia has chosen a path of its own. The Armed Forces are being shaped to match up to Russia's great power status.

These modifications have largely been determined by the domestic political situation, in the wake of the anti-regime demonstrations. The response of the political leadership to the perceived threat of political instability has led to a more authoritarian political system.

But the current shift in Russian security policy has not taken place in a vacuum – the international situation also affects the development of the security policy. The declared threat assessment is traditional – the enemy comes from the West. The financial crisis in the Eurozone and the changing global energy market have influenced the current policy outlook. The focus of the current security policy is, hence, on strengthening relations with the Commonwealth of Independent States, the Customs Union and the Eurasian Union.

The response to recent developments has been the policy of 'strategic solitude' and an increased focus on Russia's national interests. This does not mean isolation – energy exports and foreign trade are vital to Russia. The focus on the Customs Union and the planned Eurasian Union in addition to Russia's membership in the World Trade Organization are expressions of the efforts to fight international isolation (Ministry of Defence 2013: 11–12). This policy whereby Russia looks for a union of its own is likely to continue in the coming ten-year period.

The challenges facing Russian military theorists are tremendous, as indeed they are for any military thinker. There is no consensus on where current developments are pointing. The most pressing issue, from the Russian viewpoint, is the technological gap, which is partly being addressed by the creation of the Advanced Research Foundation. Another pressing issue is the shrinking numbers of recruits to the Armed Forces. In the long term, the reliance on nuclear deterrence and other means of exerting influence than military force alone is expected to be high up on the agenda. These are complex issues that are not likely to be resolved shortly or by Russia alone. But the first steps have been taken to resolve them.

At the moment, there are two trends in Russian security policy that may seem contradictory. On the one hand, there is a more assertive line – anti-American and anti-Western – in Russian security policy. The key words here are patriotism, traditional values, military strength, and Russia's interests in the post-Soviet space.

The other trend seems to go in the opposite direction. Russia is trying to be a member of and cooperate with as many international organisations as possible in various geographical directions. In recent years it has joined the World Trade Organization (in 2012) and the East Asia Summit (in 2011). Key words here are multipolarity, dialogue, and norms of international law.

Looking beyond the rhetoric, these two trends are developing at the same time – and they are not mutually exclusive.

Russian security policy has not changed dramatically during the past few years. Its foundation is still geopolitical considerations and economic pragmatism (Hedenskog 2012: 36). Strategic deterrence and the seat in United Nations Security Council continue to be seen as the pillars that guarantee Russia's status in the world and its national security. But a slight change is evident. Today, from Moscow's horizon, Europe has failed to play a dominant role in the world, the energy markets are changing, and the future of world development now lies in the Asia-Pacific region. A more detailed security policy agenda to meet the challenges from the region in general, and China in particular, is likely to emerge in the coming years.

It has been said that trying to predict Russian politics with any degree of precision is a fool's errand. However, the analysis of this chapter leads to the conclusion that the shift towards a more assertive Russia focusing on its own path – involving both domestic and foreign policy – will continue for the years to come.

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4. Russian Defence Politics

Per Enerud

The years 2012–2013 were an eventful period for the Russian defence community: Vladimir Putin appeared as new, albeit re-elected, commander-in-chief; and Russia got a new minister of defence and a new Defence Plan – all this in the middle of a process of profound military reform. This chapter aims to outline how these changes affect the reform of the Armed Forces, initiated on the instructions of Vladimir Putin by the former minister of defence, Anatolii Serdiukov, in 2008.

In this chapter 'defence' is defined as measures to achieve military security, thus following the Military Doctrine of the Russian Federation: 'A state of protection against external and internal military threats associated with the utilization or threat of military force that is characterized by the absence of a military threat or by the ability to counter such a threat' (2010: 6a). The Doctrine states defence policy as 'the activity of the state to organize and effect defence and safeguard the security of the Russian Federation and also the interests of its allies' (2010: 6i).

Limiting defence policy to military security might be problematic, but it mirrors the Russian discourse, and it provides an opportunity to focus on the activities in and around the Russian Ministry of Defence. The Armed Forces are the Russian leadership's main instrument to achieve the goals of the Military Doctrine; the Ministry of Defence is the Russian leadership's instrument for management of the Armed Forces.

As mentioned, the focus in this chapter will be on the consequences of the political changes that occurred during 2012–2013 for the military reform initiated in October 2008. The reform was termed one of the most profound changes of the Russian military in a century. The initial reaction to Serdiukov's sudden and dramatic dismissal in November 2012 was that the reform had failed or 'drowned in a sea of nostalgia' (McDermott 2013). However, with a little more perspective it seems that the processes initiated in 2008 have passed the point of no return: the reform continues under Sergei Shoigu's leadership, though with a little more carrot after Serdiukov's stick.

The chapter starts with the situation in the Armed Forces as the military reform was launched in October 2008. It describes the political visions as they were expressed by then President Dmitrii Medvedev and how they were received by media and the defence community. The next section describes the key elements of the reform, considering the organisational changes, the personnel issues and issues connected with arms and equipment. It also describes the criticism from parts of the defence community and the industry, and relates how Putin was compelled to dismiss the minister of defence. The final section attempts to describe what may happen to the reform under the new minister of defence.

4.1 The reform

The vision

Several attempts have been made to reform the Russian Armed Forces since the collapse of the Soviet Union. Carolina Vendil Pallin (2009) and Charles K. Bartles (2011) outline earlier attempts, challenges and issues. Vendil Pallin describes how the political leadership has tried to avoid interference in military affairs, and the military have kept out of politics.

Putin initiated a cautious attempt at reform in 2000, when Sergei Ivanov became minister of defence. Unlike his predecessors, Ivanov was not a military officer. Anatolii Serdiukov was appointed minister of defence in 2007, as Ivanov was promoted to deputy prime minister. Serdiukov had a background as head of the Federal Tax Services, and proven excellent managerial skills in improving the Tax Services and increasing state revenue from taxation. Just like Vladimir Putin, he was from St Petersburg; he had a reputation as a no-nonsense manager and was tasked with reforming the Armed Forces. The August War with Georgia in 2008 proved the need for reform. The war was won with limited losses and in a very short time, but it was apparent that the Russian Armed Forces performed poorly. Roger McDermott describes the after-action review as a 'seismic shock' (McDermott 2009).

As early as late September 2008, President Medvedev outlined the necessity for modernisation of the Armed Forces. Five areas for improvement were identified (McDermott 2009).

- Bring all combat formations and troop units to permanent readiness status,
- Raise the effectiveness of command and control systems,
- Improve the system of officer training, education, and military science,
- Equip the Armed Forces with 'the most modern weapons' with special attention given to precision munitions,
- Improve the military's pay, housing and social amenities.

The reform was branded 'the New Look' (*Novyi oblik*). The vision was to shape a more effectively organised Armed Forces, with better-trained and -equipped personnel, on permanent readiness for deployment according to the needs of Russia's political leadership.

The plan

The reform was announced by Anatolii Serdiukov on 14 October 2008 at a session with the Military Collegium of the Ministry of Defence. Most news reports on the announcement focused on the dramatic downsizing of the personnel, first and foremost the military officers.

In essence, the reform boils down to the following three areas:

1) the organisation
   a) the Ministry – reforming the ministry to enhance management and procurement, stamping out corruption and curbing opposition to the reforms;

   b) the Armed Forces – establishing the Armed Forces as a fighting force in a state of permanent readiness, suitable for both massive engagement and local operations;

2) the personnel
   a) securing the manning of the Armed Forces, both by means of conscription and by enlisting contract soldiers;
   b) improving the prestige and professionalism of the personnel, capable to operate under the conditions of modern, high-tech warfare;

3) the hardware
   a) equipping the Armed Forces armed with state-of-the-art weaponry and equipment through cost-efficient procurement.

The Ministry of Defence

When initiating the reform, Anatolii Serdiukov appointed loyal officers and dismissed those who expressed dissent. Several officials from the Federal Tax Service were placed in top positions in the ministry, replacing high-ranking military officers.

With his close affiliation to the circles around Putin, Serdiukov seemed suitable person for reforming the Armed Forces. With his fiscal background, looking into military procurement was a given priority. Using the Ministry's power of the purse when procuring arms and equipment should provide the Armed Forces with the best money could buy. A priority when reforming the Ministry was to achieve control of defence budget spending and financial flows, in order to successfully launch the 2020 State Armament Programme in December 2010.

During Sergei Ivanov's tenure as minister of defence, the chief of the General Staff lost his direct access to the president. The respective tasks of the chief of the General Staff and the minister of defence have since been further clarified, in Kramnik's (2011a) words giving the ministry a 'double-barrelled' structure: a military 'barrel', dealing with readiness issues, command and control of the units; and a civilian one, taking care of management, housing, economy, supplies and so forth. Relieving military commanders of direct control over procurement has provoked discontent. However, according to Kramnik, after some initial problems this 'double-barrelled' system has come to be generally accepted.

The Armed Forces

The organisational concept of the Russian Army in 2008 was more or less identical to that of the Soviet Army, i.e. a conscript-based force designed to perform large-scale ground operations with air and Navy support. It was based on divisions, units of between 5 000 and 7 000 men.

The reform envisioned a system of a few centralised training centres, and Ground Forces units in permanent readiness, based on the brigades units of 2 000 men. This would enhance the manoeuvrability of the units and make it easier to deploy for limited operations.

Kramnik (2011a) defines 'permanent readiness' as 'a structure of the Armed Forces that allows fully completed units to perform combat tasks independently immediately after receiving order'. This, according to Kramnik, is a consequence of the lessons learned from the Chechen wars and the war with Georgia in August 2008.

An important, and much debated, organisational change was the reduction of the number of military districts from six to four, corresponding to four 'strategic directions' – west, south, Central Asia and east. All military units, bar the Strategic Missile Forces, the Aerospace Defence Forces and the Airborne Forces, are subordinated to the command of the military districts.

The priority of the reform has been to achieve an organisation in which combat units are at the Russian leadership's disposal for immediate deployment for operations in all four strategic directions, and, at the same time, to secure the capability for strategic deterrence with conventional and nuclear forces.

The personnel issue

The political vision for the 'New Look' of the Russian Armed Forces is an army of 1 million men on permanent readiness. This vision has been expressed in speeches, as well as in legislative documents. Demographics are forcing Russia to rely on mixed manning with both conscripted and contract soldiers (see Chapter 1). During the years of reform, the Ministry of Defence has oscillated between prioritising the contract soldiers as the backbone of the Armed Forces and leaning towards a primarily conscript-based Army. A similar ambiguity can be noted on the role of the non-commissioned officers (NCOs), sergeant-majors, warrant officers etc., i.e. solid professionals with long experience and well-developed skills. Initially, the jobs of NCOs were to be performed by contracted sergeants. This soon proved not to be a viable solution, and the institution of NCOs was re-established.

President Medvedev expressed the ambition to reduce the number of officers in the Armed Forces. The initial vision of downsizing the officers' corps to 150 000 was however adjusted to 220 000. Officers with ten years of service or more had the right to receive housing at the expense of the Ministry. This came to be one of Serdiukov's main challenges and priorities. Furthermore, Serdiukov made a point of having the Armed Forces focus on combat tasks, and initiated a programme for outsourcing functions for support and logistics.

New equipment, new tasks and a new organisation put new demands on both officers and soldiers. Russia has a large number of highly specialised military training centres (*voennye uchilishcha*). The reform aims at setting up larger training centres with a broader profile, allowing for both theoretical and practical training.

Equipping the units with more sophisticated hardware also puts new demands on the skills and training of the personnel, especially as a great many of the soldiers, i.e. conscripts, will serve for only twelve months, which may prove to be a very short time in which to master advanced equipment.

For the time being Russia will rely to a large extent on conscription for manning the Armed Forces, but the demographic situation involves severe challenges for the Armed Forces. First and foremost, filling the rank and file of the Army is not an easy task with low Russian birth rates in the 1990s (Roffey 2011: 70). In general, the political vision of a 1 million-man Army seems overly ambitious.

Kramnik (2011a) defines 'humanisation' of the Armed Forces as one of the key elements of the reform, and under Serdiukov much was done to improve conditions for both conscripts and professionals.

The government is using several different means to make service in the Armed Forces more attractive. The DOSAAF (Volunteer Society for Cooperation with the Army, Aviation, and Fleet) is a youth sports and leisure organisation with strong ties to the Armed Forces and has received funding for running youth events, such as parachute jumping, hiking and military sports, to raise interest among young people for service in the Armed Forces. Similarly, the state hopes to employ the Cossacks' movement to create a social context where service in the Armed Forces is attractive and prestigious.

The Ministry of Defence also has programmes, coordinated with the Ministry of Education, with schoolchildren as a target audience, for basic survival training. A website for children with military comics, computer games, etc. is available on the Ministry's homepage (http://kids.mil.ru).

The hardware issue

The State Armament Programme 2011–2020 defines the plans for equipping and supplying arms, ordnance and transport capacity for the Armed Forces (Kramnik 2011b). Similar documents have been issued earlier, but never realised in full. This document contains the political priorities for supplying hardware to the Armed Forces.

One core element during ex-minister Serdiukov's tenure was the reform of the procurement system of the Russian military. Russian weapons manufacturers have traditionally been able to cash in on deliveries to the military by default. Serdiukov wanted to make sure that the Armed Forces would be provided with the best money could buy, and even invited foreign producers when tenders for equipment were issued. Among examples of foreign equipment ordered are the French Mistral class naval vessels, unmanned aerial vehicles (UAVs) from Israel and armoured cars from the Italian company Iveco. A key element in all these contracts has been that assembly of the equipment bought should be done, at least partially, in Russia. One vision, openly expressed, was to acquire valuable technology through international orders.

The State Armament Programme contains the goal of ensuring that 70 per cent of the Armed Forces' equipment should be 'modern' by 2020. The concept of 'modern' is not defined in the Programme, but according to several interlocutors it should be understood as 'less than ten years old' (See also Chapter 2). This goal of modernisation is still valid, but has been interpreted in a way that gives the domestic industry an advantage, as it has already developed several concepts and prototypes for serial production.

4.2 Exit Serdiukov, enter Shoigu

Serdiukov had the president's trust and made it clear that no opposition to the reform would be accepted. Several high-level officers were forced to leave. Dramatic cutbacks in personnel were proposed. The Ministry's staff should be downsized from 11 920 to around 5 000, and the General Staff from over 10 000 to 3 500 (Carlsson 2012). As mentioned above, Anatolii Serdiukov appointed several former colleagues to key positions in order to secure his control over the organisation and increase civilian control over the Ministry. It is a common practice in most organisations, not only in Russia, for a new minister to bring in his own team, but it did not go unnoticed that several of the new top officials of the Ministry were women. This was sometimes referred to as the 'Women's Battalion' (Newsru.com 2012), alluding to the last unit to defend the Winter Palace against the Bolsheviks during the Revolution of 1917. Russian security and defence bloggers have used a wide range of derogatory, misogynist terms when commenting on Serdiukov's team (Kharitonov 2012).

Serdiukov's reform was met with profound scepticism from large parts of the security community. Many military officers, professionals and pundits expressed discontent with the pace of the reform – too slow in some cases, too quick in others. The high-ranking officers may have been offended by Serdiukov appointing civilians, in some cases women, to high-level positions, blocking career paths earlier earmarked for military professionals.

Anatolii Serdiukov

The many publications dealing with the Serdiukov legacy leave the reader with a feeling that a collective sigh of relief went up from the Russian military and the defence industry community when Serdiukov was dismissed. Some critics state that the aggressor in all modern wars has made a point of amassing troops to a ratio of 1:8 (Viduto and Chudakov 2013). Reducing the Ground Forces basic fighting unit from division to brigade size does not, according to the critics, tally with experiences of modern warfare. Another issue, aired by some critics, is that the reform relies too much on ideas on high-tech weaponry. One critic (Rukshin 2013) gives the example of the Israeli war in Lebanon 2006, where Hezbollah managed successfully to put up a low-tech resistance against the high-tech Israeli Army.

The retired four-star General Leonid Ivashov uses the pejorative Russian expression *Serdiukovshchina* to describe Serdiukov's tenure as minister of defence. Unforgivingly, Ivashov calls Serdiukov's reform 'the hardest possible blow on the Armed Forces as a functional organisation'. The general continues: 'It is hard to imagine that one person, even such a talented one as Serdiukov, supported only by a few men without honour and conscience like General Makarov, would be able to strike a blow of such strategic measures on the country's defence potential' (Ivashov 2013).

As early as 2010, the Soiuz Desantnikov, a union of retired paratroopers, staged a demonstration against Serdiukov. Several analysts expressed a conviction the demonstration was staged by forces opposing the reform (Maloverian2010). The

military analyst Igor Korotchenko, a staunch supporter of the reform, described the protests as an attempt by corrupt officials in the defence community to avoid losing their access to public funds (Korotchenko 2010).

Ministries of defence in most countries of the world have faced similar discontent from disgruntled officers in times of reform. One should avoid depicting the criticism as a clash between 'traditionalists' and 'modernists' or 'conservatives' and 'progressives' etc. Perhaps the issue was rather Serdiukov's unwillingness to engage in a dialogue with the officers on the scope and purpose of the reform.

The Russian debate on the reform has a tendency to become an emotional discourse rather than focusing on matter-of-fact issues. The web-based publication *Anonimnaia Pravda* (The Anonymous Truth) tried in an article, just days before the minister's dismissal, to sum up the criticism of Serdiukov (*Anonimnaia Pravda* 2012):

- He is a dilettante in military affairs,
- His management skills are unsuited for defence and security matters,
- He has a disrespectful attitude towards the military professionals,
- The reform is ill-prepared and lacks a clear vision,
- Disbanding the armies, divisions and regiments will paralyse the Armed Forces,
- The proposed system of training is fatal for the quality of the future officers.

While this is not openly included in *Anonimnaia Pravda*'s list, one can add that a certain disregard for tradition was part of the criticism against Serdiukov. Any military organisation consists not only of personnel and equipment; it is also a bearer of traditions, symbols, shared stories, insignia, codes of honour and so forth. The matter-of-fact approach of Serdiukov in moving the reform forward was interpreted as a civilian's lack of understanding of the nuances of military affairs.

Dmitrii Rogozin

The representatives of the defence industry, meanwhile, were discontented with Serdiukov's vision of reforming the procurement process. The industry could not take orders from the Armed Forces for granted, as Serdiukov made sure to employ his Ministry's power of the purse to choose what to buy and from whom and to bargain over the price. A powerful industrial lobby took shape, with Deputy Prime Minister Dmitrii Rogozin as its spokesman inside the government.

Rogozin heads the Military-Industrial Commission, *Voenno-promyshlennaia Komissiia*, a government body in charge of coordination of all issues related to procurement and the defence industry. The Commission has the formal status of a government agency and is made up of about eighty persons from different ministries, government bodies and state-owned companies. The Commission – and thus Rogozin – have an important role in the procurement process (Cooper 2012).

Despite the pressure from the defence community and the industry, Serdiukov soldiered on. It was apparent that the minister of defence was instrumental in implementing Putin's vision to create a new military through thorough reform.

The pressure from the industry and its allies mounted during 2012 (Weitz 2012). Rogozin publicly criticised Serdiukov for large-scale arms deals with foreign companies. Serdiukov had long been able to ignore all forms of criticism and could rely on the support of the president, but eventually, in November 2012, he was forced to resign when certain of his close associates were facing criminal charges for embezzlement of state funds. The head of the General Staff, Nikolai Makarov, was also dismissed. No formal charges were produced against Serdiukov, however, and General Makarov was in time reassigned to a position in the Ministry of Defence.

Sergei Shoigu

Serdiukov was replaced by Moscow Oblast Governor Sergei Shoigu, a veteran in Russian politics, who had been a member of the Cabinet as minister of emergencies under Boris Yeltsin. As head of Russia's Emergency Services, he has a solid reputation as a competent manager, a skilled operative and a competent communicator.

Shoigu personally is also a very different type of politician compared to Serdiukov. While the former is a highly public figure, the latter has a background in business and fiscal policy and has never disclosed any interest in creating a political platform of his own.

After the dismissal of Serdiukov, expectations seemed high that the new minister would restore, instead of reform, the Armed Forces and let the military deal with its own affairs without civilian interference. But neither Putin nor Sergei Shoigu has given any ground for this expectation. While acknowledging mistakes, both have made it clear that the vision of a 'New Look' for the Armed Forces remains in place.

Sergei Shoigu was quoted in the Russian weekly *Nezavisimoe voennoe obozrenie* (NVO 2013a), in January 2013, as saying that he prioritized enhancing the efficiency of the management of the Armed Forces; equipping the Armed Forces with state-of-the-art weaponry and technology; enhancing military training; widening the base for enlistment into service; enhancing the procurement process; and improving the field of war studies.

These priorities are generally the same as Serdiukov's. Shoigu seems to be seeking a way to continue reform with an approach that keeps the military professionals content while still delivering a more fit-for-combat Armed Forces to his superior, President Putin.

In a speech before the leadership of the Ministry of Defence, Putin reiterated his commitment to reform, but acknowledged that mistakes had been made, and that it might take several attempts to find the best solution: 'Today, in the cause of military restructuration, certain corrections and alterations will be, and already are, introduced' (Putin 2012b).

4.3 The reformed reform

Putin mentioned 'corrections and alterations'. The change of leadership at the Ministry of Defence has led to changes in policy. First and foremost, Sergei Shoigu offers a less confrontational approach towards the dissent among both the military professionals and the defence industry. To a degree, this approach is not really backed up by real policy changes, but is rather symbolic. In general, the overall vision of 'meaner and leaner' Armed Forces remains in place.

Shoigu (although, like Serdiukov, he is not a military professional) has made a point of appearing in uniform as a four-star general of the army, a rank he was given by the late President Yeltsin. He has repeatedly sought contact with some of the most vocal critics of the reform, for instance with General Makhmut Gareev, the head of the Academy of Military Sciences. While Serdiukov ignored Gareev and the Academy, Shoigu delivered a speech at the Academy in January 2013, just a couple of months after assuming his responsibilities as minister. Shoigu further presented Gareev with an honorary *shashka,* a Cossack's sabre, on his ninetieth birthday in July (VPK 2013). While handing out sabres does not really constitute real change in the path of the reform, the gesture shows the new minister of defence's readiness to engage in a dialogue with the critics of reform, or at least appear to engage in a dialogue.

In late December 2012, President Putin introduced an important change in that the chief of the General Staff again can report to the president without informing the minister of defence. In August 2013, Shoigu announced plans to create a National Defence Centre (*RIA Novosti* 2013) in order to enhance the operational management of the Armed Forces. In what way this Centre is taking over responsibilities from or is integrated with the General Staff is not clear, but a high-ranking official from the Ministry of Emergencies was appointed head of the Centre. It could be interpreted as an attempt to strengthen the minister's control over the chief of the General Staff.

Sergei Shoigu is adopting a long-term perspective on the hardware issue. He has expressed a need to have contracts that cover the entire life span of the equipment – from drawing board to scrap heap. This is not unique to Russia. Life cycle thinking has influenced procurement in many countries in recent years. Russia has not cancelled any of the international contracts for imports of military equipment, but Shoigu has conveyed a view that practically all military equipment should be produced in Russia.

This might be the most dramatic consequence of the Shoigu 'restoration'. If most other corrections can be described as symbolic, the changes in military procurement are fundamental. The Russian Armed Forces will not be equipped with the best money can buy, but with 'good enough' equipment, delivered primarily from domestic producers. President Putin has personally expressed (Putin 2012b) a political vision of using the military industry as a locomotive for the whole of Russian industry.

The issue of 'outsourcing' as a part of the military reform was the subject of lively discussion in the security community. Serdiukov dissolved several organisations within the military and outsourced its activities to civilian companies. Shoigu has re-established some of these functions as 'in-house' capacities.

Since Shoigu assumed responsibility over the Ministry, the division has been reintroduced in a few cases (see also Chapter 2). It is still being debated whether this is a step back towards a new fighting organisation or merely a cosmetic change, branding two brigades as a 'division', but without actually setting up division-sized units.

It is possible that the re-emergence of the divisions should be interpreted as a tribute to military history; the website of the Ministry of Defence introduces the reform in the same context as the reintroduction of the Semenovskii and Preobrozhenskii regiments (see Chapter 3). These 'regiments' will still be brigade size (Mil.ru 2013).

The changes in policy under Shoigu can be considered to be both symbolic as well as concrete. Among the changes are:

- a less confrontational approach towards the military top-brass,
- units with connections to Russian military history have been reinstated,
- the minister of defence appearing in military uniform,
- readiness to engage in a dialogue on elements of the reform, while maintaining the general course of the reform,
- a more independent role for the chief of the General Staff vis-à-vis the Ministry of Defence,
- the restoration of some disbanded divisions (this can be understood as being in line with the symbolic reinstatement of historical units),
- some cases of out-sourcing functions have been returned to the Armed Forces,
- a stronger focus on relying on domestic industry resources for equipping the Armed Forces,
- and, acknowledging that the Armed Forces function as an element of a Russian national idea.

These changes are not without significance, but what matters is that Shoigu has remained true to the initial visions of the reform. Indeed, Shoigu has changed only details when it comes to the overall structure of the Armed Forces. The radical restructuring carried out under Serdiukov overall remains in place.

Thus, Sergei Shoigu is proving to be able to fend off criticism through a more inclusive approach and minor concessions, while maintaining the general ambitions of the reform. As the reform celebrates its fifth birthday, it is safe to say that no radical reversals appear to be taking place, despite criticism and leadership issues.

4.4 Conclusion

October 2013 marks the fifth anniversary of the military reform in Russia – a reform that in a profound way is changing the organisation, weapons and equipment as well as the role of the Russian Armed Forces. Unlike earlier reforms under Yeltsin and Putin, this reform has led to tangible changes of military life in Russia.

The reform was met with strong criticism from officers, politicians and pundits – much like a military reform in any country. But the Russian political leadership continued on the reform path. Serdiukov was eventually dismissed and replaced with a minister with a less confrontational approach. By then, most key elements of the reform had already been introduced, and the new leadership has made only minor concessions to the critics.

The most notable change in policy is a more compliant tone in relation to the defence industry. While the dismissed Serdiukov wanted to employ the power of the purse of the Ministry, Shoigu expresses an ambition to procure equipment mainly from domestic companies.

In general, however, the reform and the visions expressed at the time it was launched remain in place. With the reelection of Putin it seems to be concluded.

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5. Defence Spending

Susanne Oxenstierna[25]

The ongoing reform of the Armed Forces has resulted in a marked rise in the Russian defence budget, from an average of 2.7 per cent of gross domestic product (GDP) in the 2000s to around 3.1–3.8 per cent during the budget period 2013–2015 (Oxenstierna and Bergstrand 2012a: 149; 2012b: 45; Table 5.5). The rise is due to the high priority being given to the modernisation of the defence sector with regard to both personnel and equipment. Comparing Russia's total military expenditure to other countries', this level of the Russian defence budget corresponded to total military spending of 4.4 per cent of GDP in 2012 (SIPRI 2013). This is equal to the share of national defence in the GDP of the USA, but high compared to European countries, where defence spending has tended to decline since the Cold War and its shares in GDP lie at around 2 per cent. In absolute terms, Russia's military expenditure is of the same magnitude as that of the UK or France, and corresponds to about 7 per cent of US military expenditure (Oxenstierna and Bergstrand 2012a: 149–150; 2012b: 46).

A country's defence budget is the most general single measure of the resources provided to the military and it conveys a sense of the size of the military establishment and the relative importance of defence in comparison with other public spending (Rand 2000: 136). It is not a direct measure of military capability, but it may be assumed that increases in defence spending enhance the potential to develop a stronger capability. Other elements that will affect the outcome are, e.g., how the funds are used with regard to allocations between different functions; how efficiently procurement and incentive systems work; and how the military leadership converts the strategic resources into effective military capability (ibid.: 137–143).

The purpose of this chapter is to describe and analyse the recent development of the Russian defence budget and total military spending and assess the expected developments over the period 2013–2023. Given that the security policy situation is not changing drastically, economic development is deemed to be the most important factor behind the development of military expenditure (ME). In the chapter economic development is reflected in the real growth of GDP. Another crucial factor affecting the defence budget is the priority given to defence relative other types of public spending. This priority is reflected in the share of the defence budget in GDP.

[25] I am most grateful to Julian Cooper for helpful comments on both the first draft in April and the final draft in September. Thanks also to Vasily Zatsepin for explaining and correcting some data in the final draft. I have profited from comments by Hanna Smith and other participants of the final seminar 4 September 2013 that indicated a need to explain some economic concepts and causal relationships more clearly. All remaining errors are my own.

Since economic development is regarded as the main determinant of the future size of defence spending, the chapter starts with an analysis of the economic situation in 2012–2013 and the medium- and long-term strategies that the Russian government has presented. In section 2, the defence budget and total military spending are analysed. Section 3 is devoted to the development of personnel costs. The fourth section discusses the performance of the State Armament Programme (GPV) up to 2020. The fifth section discusses the efficiency of spending in the procurement system and the State Defence Order (GOZ) and looks at corruption issues and the problems of the supply side of the armament programme, the Russian defence industry. The sixth section makes a simple forecast of the Russian defence budget up to 2023 to illustrate the effect of economic growth and different assumptions about defence's share in GDP. The final section presents the conclusions.

This chapter studies Russian defence spending primarily from the data provided in the federal budget of the Russian Federation published by the Russian Ministry of Finance (MoF), the Federal Treasury and the Federal State Statistics Service (Rosstat). This allows comparison of budget allocations to defence as compared to other public spending and gives an idea of the size of defence spending relative to GDP and how this indicator has developed over time. Russian defence spending is also analysed in comparison to that of other countries, and here the Stockholm International Peace Research Institute (SIPRI) estimates of the military expenditure of different countries are used since they are based on a common definition. The study of the composition of the defence budget is severely hampered by lack of transparency and this is also a problem when total military expenditure is investigated, since some defence budget items are included under other budget headings and many are classified. The chapter focuses on the information that may be obtained and the problems of secrecy are only briefly touched upon.

5.1 Economic development

Economic growth was 3.4 per cent in 2012 (Table 5.1), which is considerably lower than the over 4 per cent anticipated in many forecasts. During the first quarter of 2013, growth was even lower, at 1.6 per cent (Rosstat 2013a) and expected growth in 2013 has been adjusted down to 1.8 per cent (*Vedomosti* 2013c). This means that growth has dropped to less than a third of the average level of the decade preceding the 2009 crisis. High domestic demand was the main driver in GDP growth during 2012. Oil prices were high and resulted in high fiscal revenues, enabling the government-induced rapid increase in public wages and transfers, which in turn resulted in higher inflation.

Despite the decline in the growth rate, employment has risen and unemployment is at a low, at slightly over 5 per cent (Table 5.1). This indicates the persistence of low productivity, estimated at between 2.5 and 3 times lower than in the developed countries (Government of the Russian Federation 2013a: 9), and that growth is dependent on increasing inputs rather than on better use of them. A labour shortage has become a limiting factor to growth, and in particular

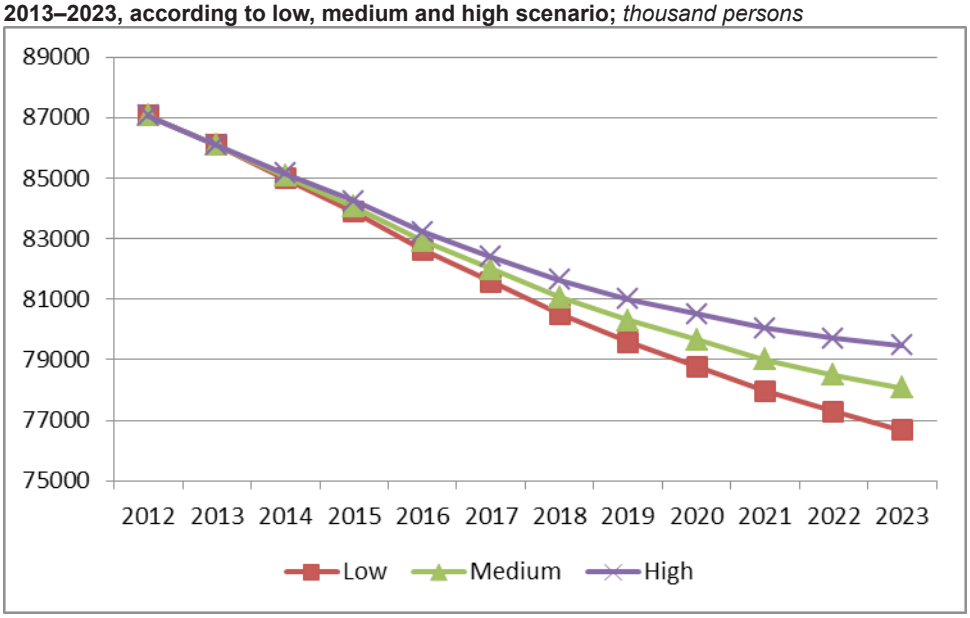
Table 5.1 Russia's economic development, 2007–2012

	2007	2008	2009	2010	2011	2012
GDP, y-o-y %	8.5	5.2	–7.8	4.5	4.3	3.4
Investment, y-o-y %	21.1	9.8	–16.2	6.0	8.3	6.7
Federal budget balance, % GDP	5.4	4.1	–5.9	-4.1	0.8	–0.1
Inflation CPI, p-o-p %	11.9	13.3	8.8	8.8	6.1	5.1
Reserve Fund bn USD, e-o-p		137.1	60.5	25.4	25.2	62.1
National Wealth Fund, bn USD, e-o-p		88.0	91.6	88.4	86.8	88.6
Share of energy in exports, %	61.5	65.9	62.8	63.5	65.5	65.4
Share of loss-making companies, %	23.4	25.2	30.1	27.8	28.1	NA
Share of credits in investments, %	15.5	17.6	20.1	14.3	12.8	NA
Real disposable income, index (1999=100)	245.6	251.5	259.3	272.5	274.7	279.6
Average monthly wage, USD	532	697	588	698	806	859
Unemployment, % (ILO definition)	6.1	7.8	8.2	7.2	6.1	5.3

Source: World Bank (2013).
Abbreviations: y-o-y = year-on-year; p-o-p = period-on-period; e-o-p = end of period. ILO = International Labour Organization.

qualified labour is in short supply. The restrictive migration policy hinders the necessary labour migration which could mitigate the marked decline in the numbers of people in the able-bodied age group, which is becoming more severe. As may be seen in Figure 5.1, the size of the able-bodied population will shrink from 87 million people in 2012, in the best case, to just under 80 million, and in the worst case, to 77 million persons, in 2023, i.e. by about 10 million in the next ten years.

Figure 5.1 Forecasts of the Russian population in the able-bodied age group (15–72), 2013–2023, according to low, medium and high scenario; *thousand persons*



Source: Rosstat (2013b).

Challenges in the medium term

This slowing of growth entails several challenges for the Russian economy and society and these need to be addressed to avoid cuts in public spending in the coming years. Most problems are of long standing and well known, such as low productivity and weak innovation. The pension system is a severe fiscal problem and, despite attempts to increase funds for present pensions, remains fragile as the demographic crisis in the able-bodied age groups develops. Moreover, the addiction to oil revenues props up Russia's backward industry and leaves the economy open to shocks from the international oil price. The general business climate of small and medium-sized businesses does not attract new entrepreneurs or foreign direct investment.

After his inauguration on Victory Day, 7 May 2012, President Vladimir Putin issued a number of decrees with tasks that urge the government to address these problems forcefully (Putin 2012a–d). In May 2013, the government had to present results on all the assignments and ministers who had not coped were criticised by the president (Putin 2013). As a result, several ministries, including the Ministry of Defence (MoD) and Ministry of Economic Development (MED), published 'five-year plans' on their websites in June 2013 describing how Putin's decrees are to be fulfilled by 2018, or in some cases by 2020.

Economic goals and long-term strategies

In Decree no. 596 Putin (2012d) spells out the economic improvements that should be achieved by 2018–2020. These include the establishment of 25 million highly productive jobs by 2020; an increase in the share of investment in GDP to 27 per cent in 2018; an increase of investments in state priority industries; an increase in labour productivity by a factor of 1.5; preparations for the privatisation of state assets outside the commodity-energy sector; and an improvement of the rating of Russia in the World Bank Doing Business index from 120th place in 2011 to 50th in 2015 and 20th in 2018.

To address these issues, the Russian government has developed a new comprehensive economic strategy up to 2030 (MED 2013). The new strategy presents three scenarios for the Russian economy up to 2030. The first, 'conservative', scenario is a status quo scenario where annual growth stays at 3 per cent, with continuing dependence on the energy sector and little change. The second, 'innovation', scenario is the main scenario and it anticipates annual growth of 4–4.2 per cent. In this scenario exports should be diversified and the high-technology sectors should grow, with a higher share of investment in GDP and support from the federal budget. There is also a 'forced growth' scenario anticipating growth of 5–5.4 per cent a year. This scenario requires high public expenditure and entails borrowing abroad at a level of 3–6 per cent of GDP (MED 2013: 51–63). However, in September 2013 the MED published an adjusted forecast for the period 2013–2016 based on estimated GDP growth 2013 of just 1.8 per cent. Growth is expected to recover in 2014 to 2.8–3.2 per cent and to 3.2–3.4 per cent in 2015 and 3.3–3.7 per cent in 2016 (*Vedomosti* 2013c). This is between 0.5 and 1 percentage point under the MED-2030 (2013) strategy and will of course affect all budget spending.

In addition, the government has adopted a more detailed economic programme for the period 2013–2018 (Government of the Russian Federation 2013a) which uses the three scenarios of the long-term strategy and proposes concrete measures that the government must take to achieve different outcomes. The measures are in the same range as measures proposed during the period 2009–2011, with the exception that the defence industry is strongly emphasised. The defence industry is seen as a driver generating innovation and technological change and the modernisation of the defence sector should be accelerated with more state support (ibid.: 23). Otherwise the programmes and plans presented are basically road maps for adopting legislation and achieving milestones to fulfil Putin's goals.

In general, the programme calls for more state intervention and regulation instead of more market solutions. It shows that the present regime is opting for an even more politically managed economy in an increasingly centrally controlled political system. These administrative regulations will hardly increase competitiveness or enhance the modernisation and growth that are needed to solve the structural problems of the economy.

5.2 The defence budget and total military expenditure

The high priority given to defence is reflected in increasing allocations to the defence budget, the item 'national defence' in the federal budget. As shown in Table 5.2, in 2012, defence spending actually carried out was RUR 1 812 billion (USD 99 billion), out of a budget of RUR 1 832 billion, and constituted 2.9 per cent of GDP, which is lower than the 3.1 per cent anticipated in the previous three-year budget. Between 2003 and 2012, the year-to-year *nominal rise* in defence spending was 20 per cent, which was also the nominal increase between 2011 and 2012 (Table 5.2). The *real growth* in defence spending depends on which price index is used. It is, however, common to use the GDP deflator, in which case the real increase from 2011 to 2012 was 11 per cent, which is higher than the yearly average of 6 per cent real increase between 2003 and 2012 (Table 5.2). The Russian defence expert Vasily Zatsepin (2013b: 21) argues that the relevant price index to be used for defence spending is that for public consumption, which is higher and results in only a 6.9 per cent real increase between 2011 and 2012. This is lower than what is indicated using the GDP deflator, but still high compared to the average yearly real increase of 3.3 per cent over the period 2003–2012 using this index. In comparison it may be noted that the consumer price index (CPI), which is usually used to measure the inflation of household consumption, is lower and produces a higher real growth rate (Table 5.2).

The high political priority given to defence is further reflected in comparisons of Russian total ME with ME in other countries. Since cross-country comparison requires that the same definition of ME is used for all countries, SIPRI's estimates of ME in different countries are used in this analysis. Figure 5.2 shows that in 2012 total Russian ME as a share of GDP was 4.4 per cent, which is equal to that of the USA. This is relatively high compared to the other countries, e.g.

Table 5.2 The defence budget as a share of the federal budget, 2003–2012; *billion RUR, per cent*

National defence	2003	2008	2009	2010	2011	2012	2003–2012
Budget law; billion RUR	355	1 032	1 193	1 278	1 517	1 832	
Budget execution; billion RUR	356	1 041	1 188	1 277	1 516	1 812	
Use of budget allocations (%)	100	101	100	100	100	99	
Growth in actual defence spending							**Averages**
Nominal growth, y-o-y (%)	20.4	25.1	14.2	7.4	18.8	19.5	20.1
GDP deflator (1)	113.8	118.0	102.0	114.2	115.5	108.5	114.1
Real growth y-o-y (1)	**6.6**	**7.1**	**12.2**	**-6.8**	**3.3**	**11.0**	**6.0**
Deflator public consumption (2)	121.9	122.7	110.1	106.7	113.1	112.6	116.8
Real growth y-o-y (2)	**-1.5**	**2.4**	**4.1**	**0.7**	**5.7**	**6.9**	**3.3**
CPI, y-o-y (3)	113.7	114.1	111.7	106.9	108.4	105.1	110.2
Real growth (3)	**6.7**	**11.0**	**2.5**	**0.5**	**10.4**	**14.4**	**9.9**
Share of GDP (%)							
National defence/GDP (%)	2.7	2.5	3.1	2.8	2.7	2.9	2.7
SIPRI total military expenditure/ GDP	4.3	3.7	3.7	4.6	4.3	4.4	4.0
GDP, billion RUR current prices	13 208	42 277	38 807	46 322	55 799	62 599	

Source: Zatsepin (2013b: 21) based on Federal Treasury reports and Rosstat. Author's own calculations
Note: y-yo-y = year-on-year

China with 2 per cent, France with 2.3 per cent and the UK with 2.5 per cent. The average share of the 27 European Union (EU) countries is about 2 per cent (Figure 5.2). Thus, total Russian ME constitutes a burden on the economy that is about twice as high as in the other countries, with the exception of the USA.

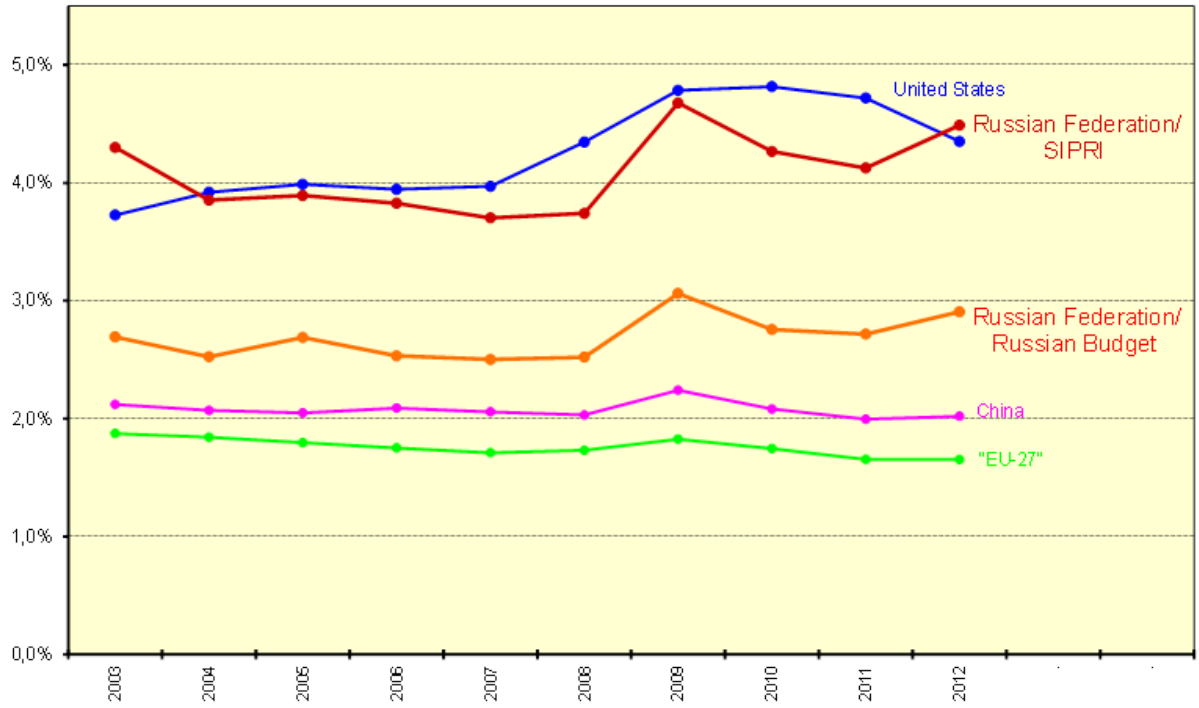
Lack of transparency

The Russian federal budget is opaque and lacks the transparency that would facilitate analysis of budget figures.[26] Large segments of the budget are secret and not even published in the budget law, which is quite absurd since the budget is the main document governing economic policy. Interestingly enough, however, secret budget items appear in the monthly reports on budget implementation by the Federal Treasury, which is the agency under the MoF responsible for budget execution. They are also included in the preliminary budgets and accompanying documents and in the version sent to the Duma for reading. However, when studying the budget, caution is needed since in some documents secret items are included in the figures, while in others they are not. The difficulty of accessing budget documents during the budget process adds to these problems.

However, thanks to the ambivalence of the government in sometimes publishing and sometimes not publishing secret figures, it is possible to estimate the magnitude of the secret parts of the budget. According to the Gaidar Institute (2013: 516) nearly 12 per cent of the whole budget in 2012 was accounted for by secret allocations. For 'national defence' the share was 48.6 per cent that year. The level of secrecy has increased over time; in 2005 it was 11 per cent in the total budget and 42 per cent in the defence budget (ibid.). An important reason for the opaqueness seems to be that MoF employees get significantly better pay when they manage 'secret' data (Zatsepin 2007: 57).

[26] See Cooper (2013) for a comprehensive account of how to deal with these challenges in the analysis of the Russian federal budget.

Figure 5.2 Estimated military expenditure as a share of GDP for Russia and selected countries, 2003–2012; *per cent*



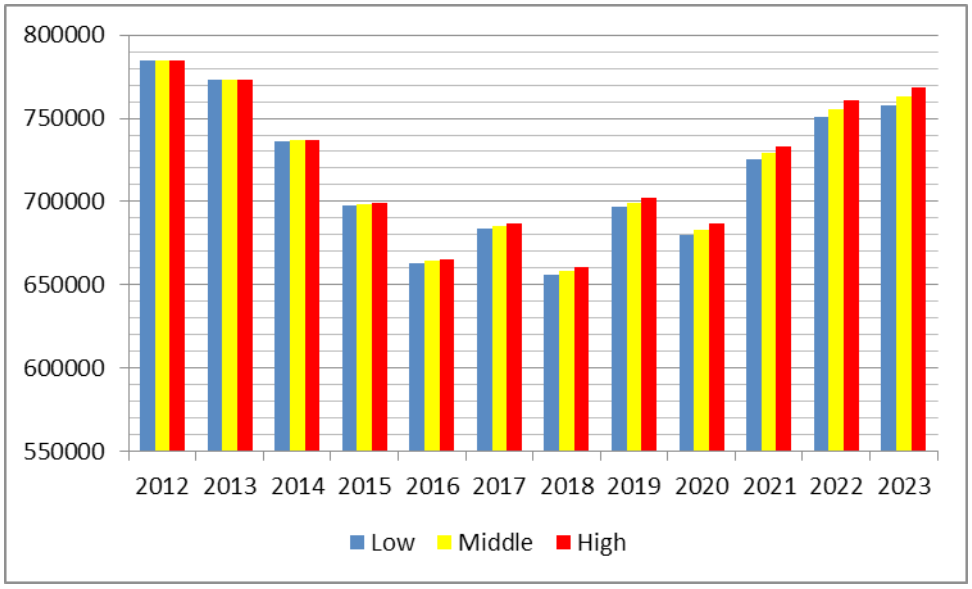
Sources: SIPRI (2013) and MoF.

Another difficulty applying to the defence budget is that the Russian definition of defence is quite narrow and, for comparisons with other countries, items from other budget heads of the federal budget need to be added to the 'national defence' item. Among these there are also secret items that the budget does not reveal directly. The SIPRI estimates for Russia in Figure 5.2 and Table 5.2 are based on recalculations from the Russian federal budget. Deeper analysis of transparency issues and how to calculate total ME from the federal budget may be found in Zatsepin (2007; 2013b); Gaidar Institute (2013); and Cooper (2013).

5.3 Personnel costs

In 2013, Russia entered a period of sharp decline in the conscript cohorts. As can be seen in Figure 5.3 showing the yearly cohorts of 18-year old males, there is almost no difference between the low and high scenarios in the Rosstat population forecast, which is explained by the fact that these people are already born and differences can only occur as a result of different assumptions about life expectancy. In the next ten years the 18-year cohorts will number under 700 000, and at times the number will be down to 650 000. As noted in Oxenstierna and Bergstrand (2012a:159–160; 2012b: 53–54), it may be expected that a maximum of half of each yearly cohort will be available and fit to serve in the Armed Forces, and even that figure is probably a high estimate. In 2012, fewer than 300 000 men (295 710 persons) were recruited as conscripts in the Armed Forces (Gaidar Institute 2013: 510). According to the Audit Chamber the staffing level in the Armed Forces was 77 per cent in late 2012

Figure 5.3 Forecasts of the age group of 18-year-old males according to low, medium and high population scenarios, 2013–2023; *thousand persons*



Source: Rosstat.

(ibid.). Barabanov et al. (2013: 17) estimate the numbers at 700 000 in 2012. In July 2013, the Audit Chamber reported that the MoD had overspent on salaries by RUR 88 billion in 2012, due to the fact that the actual number of persons employed was 760 000 rather than 1 million, which the budgeted wage fund was based on (*Izvestiia* 2013). The same source estimates the share of personnel in the MoD's costs at around 30 per cent in 2012.

Putin's (2013b) Decree no. 604 requires that the number of contract soldiers should rise by 50 000 per year up to 2018. This is in reaction to the low numbers of conscripts. The MoD (2013b) has published its plans for manning on its website and Table 5.3 shows what this will entail for the numbers of contract and conscript soldiers up to 2020. It may be noted that increasing the number of contract soldiers at the pace suggested, and keeping the total target number, would entail over 400 000 conscripts being needed every year up to 2016. This is hardly realistic since during these years the cohorts are very small. Either the goal of 1 million men needs to be modified or other reserves need to be mobilised. After 2016 the mix of 425 000 contract soldiers and 355 000 conscripts seems more achievable.

With fewer conscripts, more contract soldiers have to be employed, which is more costly. Oxenstierna and Bergstrand (2012a: 160–161; 2012b: 55) show that a decline in the number of conscripts by 300 000 per year, and replacing them with contracted personnel, would increase total wage costs by about 40 per cent compared to the original calculations based on 700 000 conscripts. In 2012 salaries and benefits in the Armed Forces were raised in accordance with a new law on monetary benefits (ibid.). The MoF estimated that the reform would cost another 1 per cent of GDP, and it was not fully financed in the budget proposal put forward in 2011 (ibid.). According to MoD (2013a), salaries and benefits

Table 5.3 Planned personnel in the Russian Armed Forces, 2012–2020; *thousand persons*

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Officers	220	220	220	220	220	220	220	220	220
Contracted	244*	241	295	350	400	425	425	425	425
Conscripts	296	359*	435*	430*	380*	355*	355*	355*	355*
Total	**760**	**820**	**950**	**1 000**	**1 000**	**1 000**	**1 000**	**1 000**	**1 000**
Planned manning level	800**	820	950	1 000	1 000	1 000	1 000	1 000	1 000

Source: Oxenstierna and Bergstrand (2012b: 55); MoD (2013); Gaidar Institute (2013: 510).
Notes: *Calculated residual. ** Planned 2012 (NVO 2013).

have risen 2.5–3 times after the law was adopted and were on average RUR 23 000–35 000 per month in 2013. However, even with higher salaries there is no guarantee that the MoD can find all the contract soldiers that are needed. As has already been noted above in Figure 5.1, it is not only the conscript cohorts that are declining; the whole population in the able-bodied age groups is shrinking and the Armed Forces will have to compete with the civil labour market for recruits. Thus, despite the efforts to make the Armed Forces more attractive, the military leadership will find it hard to fill all the places in its forces, and will most probably have difficulty reaching the goal of 1 million men during the coming ten years.

5.4 The State Armament Programme, GPV

A larger share of contract soldiers is more costly, but the main reason behind the increase in the defence budget is the cost of the ambitious GPV–2020. Arms procurement, as a share of GDP, is expected to double to almost 2 per cent by 2014 (Oxenstierna and Bergstrand 2012a: 153; 2012b: 49). The military objective for this cost increase is that by 2020, 70 per cent of the Armed Forces' arms are to be modern. With Vladimir Putin back in the presidency the GPV and the defence industry seem to have stronger and more visible support than was the case under President Dmitrii Medvedev. Signing Decree no. 603 on the modernisation of the defence industry and setting the pace for the realisation of the GPV–2020 were among the first actions taken by Putin (2012c) after his inauguration.

Of the total budget for procurement, RUR 19 000 billion is reserved for the MoD and between 2011 and 2020 as much as 80 per cent of the total will be spent on purchases of arms, while 10 per cent is set aside for research and development (R&D) and 10 per cent for repair and upgrading of older equipment (Oxenstierna and Westerlund 2013: 5). Table 5.4 shows the allocation of the MoD GPV's aggregate funds by major functions in the MoD programme. The Military Space Forces, Aerospace Defence Forces (ASD), Air Force and Navy will get the lion's share of the funds. In addition, the government plans investment to modernise the defence industry and has issued several Federal Target Programmes (FTPs) for this purpose (Westerlund 2012a–b). The MoD (2013b) website gives the yearly targets in percentages of the totals for how this should be achieved within different types of arms. As noted by Barabanov et al. (2013: 19), almost 75 per cent of the costs fall in the period after 2015.

Table 5.4 Allocation of funds in the MoD GPV-2020

Programme	Key objectives and indicators	Funding; *trillion RUR*
Total MoD GPV 2020 of which:	The share of modern weapons and military equipment supplied to the Armed Forces should be 30% by 2016 and 70% by 2020.	**19.0**
Strategic nuclear forces	The share of modern weapons of 75–80% in 2020. More than 400 land-based and sea-based intercontinental ballistic missiles. 8 missile strategic submarine cruises cruisers?.	1.0
Military space forces and Aerospace defence (ASD)	The share of modern weapons in the ASD in 2020 shall be at least 70% – about 100 spacecraft and 28 S-400 regimental units.	4.0
Air Force	More than 600 aircraft and over 1 000 helicopters.	4.7
General purpose Navy forces	51 surface warships. 16 attack submarines. 90 support vessels.	4.4
Ground troops and Airborne troops	10 Iskander-M regimental units. 9 S-300V4 regimental units. About 2 000 self-propelled guns. More than 30 000 vehicles.	2.6
Main departments of the MoD	The share of modern rear and special equipment shall be at least 65% in 2020.	2.3

Source: Gaidar Institute (2013: 512).
Note: The MoD GPV is the part of the State Armament Programme that is for the MoD.

It is already a tradition that before the full period of one ten-year GPV has elapsed, a new one is developed and launched, which makes it difficult to assess to what degree these programmes are fulfilled. Not surprisingly, during the present GPV, a new GPV up to 2025 will be developed before the GPV–2020 is finished, and some deliveries will be postponed. A first official sign of this procedure was an agreement between the MoF and the MoD of 22 May 2013. The minister of finance, Anton Siluanov, proposed to postpone parts of the GPV–2020 for between two and four years due to the expected fall in budget revenues causing a higher budget deficit, and that the MoF must find an additional RUR 1.3 trillion over the period 2013–2016 to fund infrastructural investments prioritised by President Putin (*Vedomosti* 2013a–b). The substantial increases in the military budget compared to other budget items over several years were an additional argument (*Kommersant* 2013a). The cuts appear to have been accepted by the minister of defence, Sergei Shoigu, who made reference to the procurement plans being overoptimistic and noted that delays in contracting were already causing delays in production. In July, *Vedomosti* (2013a) reported that the MoD had accepted postponing RUR 87 billion of the GPV; that will instead be spent in 2014–2016. The MoF also wants to cut the funding of the GPV generally by 5 per cent per year over the period 2014–2016 in an attempt to cut all state procurement. Shoigu has also made cuts in foreign orders for defence equipment (*Kommersant* 2013b).

5.5 Efficiency problems linked to the State Defence Order, GOZ

In 2012, the MoD State Defence Order (GOZ) amounted to RUR 677.4 billion and the share of the GOZ in the spending of the MoD was 37 per cent. In addition, the government had granted state guarantees of RUR 174 billion to the defence industry (Frolov 2013: 31).

Contracting procedures

The MoD has had problems in coping with the amount of contracting the ambitious GPV entails. In 2012 some improvement in the contracting could be noted. According to the law, contracts should be ready by end of the first quarter of the year. In May 2012 only two thirds of contracts were ready, but by 1 August 2012 it was reported that 95 per cent of the GOZ was contracted and 82 per cent of the financial means allocated had been handed over to the companies involved. By the end of the year the corresponding figures were 98 and 91 per cent, which is the best result for the whole of the post-Soviet period (Frolov 2013: 31–32). The role of Rosoboronpostavka was increased and around 50–60 per cent of the GOZ seems to have gone through this agency (ibid.). Rosoboronpostavka (2013) is still under the MoD but Rosoboronzakaz, the controlling agency, was transferred from the jurisdiction of the MoD to the government.

On 1 January 2013 the new federal law on the State Defence Order gained legal status. This law replaces the old law from 1995, which had been in conflict with much of new legislation in different fields passed during the last seventeen years (Zatsepin 2013a). The new law is less specific than the old one and the deputy prime minister and chairman of the Military Industry Commission, Dmitrii Rogozin, noted the low quality of the law and that in order to make it operative several government decrees and instructions needed to be developed (ibid.: 57). Instead of increasing the accountability, transparency and competitiveness of the procurement process, it appears that the new law increases the discretion the MoD and the suppliers enjoy. An attempt has been made to give procurement a more appropriate legal framework, but there is a long way to go before new legal procedures are properly implemented.

Corruption

A main obstacle in making the GOZ system more effective is the lack of transparency regarding both ME and the procurement process. Transparency International (TI 2013) places Russia in group D on a scale of 'A' (most transparent) to 'F' in its Government Defence Anti-Corruption Index. This means that procedures are opaque and cannot be followed. Other countries in this group are China, Turkey, Kazakhstan and Jordan.

The annual GOZ comes under the law on state secrets, and details of the annual value and composition of procurements belong to the classified section of the federal budget. The lack of transparency complicates the efforts even of the public authorities charged with controlling spending and opens up opportunities for corruption. According to Russia's Chief Military Prosecutor Sergei Fridinsky (who has earlier claimed that 20 per cent of the defence budget

disappears every year), corruption cost the Armed Forces more than RUR 7 billion in 2012 (VPK 2013b). He also claims that the propensity to take bribes rose by a third, appropriations doubled, and fraud increased by 20 per cent (ibid.). The Accounting Chamber found misuse of funds to a value of RUR 117 billion in its regular audit of the defence budget of 2012 (VPK 2013a). Several high-profile corruption scandals have occurred in the military sector since 2012, the most well-known being that involving the MoD-controlled holding company Oboronservis, which resulted in a legal investigation and an anti-corruption campaign being launched against the MoD. As a result Defence Minister Anatolii Serdiukov was dismissed and replaced by a former minister of emergency, Moscow Region Governor Sergei Shoigu, on 6 November 2012.

Many other cases have been reported in the press in 2012 and 2013, such as the suspected embezzlement of over RUR 30 million at the Space Defence Forces or the suspected embezzlement of RUR 7 million at an MoD-owned health resort in Russia's southern Stavropol region (*RIA Novosti* 2013). Rosoboronzakaz, the agency that oversees procurement and can impose sanctions and fines on civil servants or companies that break the rules, is reported to have uncovered infractions in Russia's state defence spending estimated at over RUR 16 billion in 2012 (ibid.). These sound more like clear cases of fraud than the Oboronservis case, but they could be partly fabricated in order to get rid of people close to Serdiukov. Anti-corruption campaigns are launched to fight corrupt behaviour, but it could be that the authorities also use this kind of accusation to implicate people they want to move from powerful positions.

'Soft budget constraints'[27]

A classic problem behind the inefficiency of the GOZ is the fact that the suppliers are mainly state-owned and state-controlled defence companies that have barely been touched by market reform during the past 20 years. The Audit Chamber notes in its report to the Duma Defence Commission in 2012 that 30 per cent of the defence industrial companies were loss-making and that the ability to take loans from banks that are guaranteed by the state only preserves this unprofitable structure (VPK 2013a). Only 20 per cent of the companies were deemed to be in such a shape that they could be modernised. The state of the remaining 50 per cent meant that it was deemed meaningless to restructure them; instead it was better to build new companies and replace them (ibid.). 'Soft budget constraints' still prevail in the defence sector and conserve the old industrial structure. However, the loss-making companies are obviously a strong lobbying power in the Russian military establishment, so that they continue to get funds and soft credits to cover their losses, and continue to operate under a regime of 'soft budget constraints'. Serdiukov tried to induce some efficiency into this system. Shoigu, however, appears to be less inclined to challenge the loss-making defence industry. Slowing down the armament programme and cancelling foreign orders are steps in that direction.

[27] The concept 'soft budget constraint' was originally developed by the Hungarian economist Janos Kornai (e.g. 1980; 1992) to describe a phenomenon that was typical in the socialist economies. It means that the economic actor does not go bankrupt if costs exceed revenues. The state will always cover the losses. The phenomenon also exists in mixed economies and still prevails in many transition economies.

The 2011 conflict over the prices of armaments between former Defence Minister Serdiukov and the industry was a central obstacle in the procurement process and caused delays. The results were that in 2012 the MoD to some extent achieved agreement on price indicators in long-term contracts, but after the change of leadership it may be questioned to what degree these agreements will hold (Barabanov et al. 2013: 19). The industry has a strong position in the negotiations due to its monopoly power in many cases. In 2012, the head of Rosoboronpostavka (2012) admitted that 65 per cent of all contracted transactions are made with a single supplier, i.e. there was only one company that could provide the particular goods. Shoigu seems to be taking a softer position on prices and does not think the MoD should spend too much effort on evaluating what is the correct price.

The use of state-guaranteed credits in GOZ and the FTPs is another way of conserving soft budget constraints and inhibiting productivity improvement in the defence industry. As shown by Cooper (2012), as much as 22 per cent of the GOZ 2011–2015 appears to be funded from such credits. A similar situation applies to the FTPs for the development of the defence industry. State credits that are fully backed by the government are very similar to direct allocations. The manoeuvring between the MoF and the MoD in 2013 suggests that credits and budget assignments are in fact the same for the companies and the state even pays the interest rate (*Vedomosti* 2013a). If state-guaranteed credits are to supplement direct budget allocations, expenditure on the GPV becomes higher than the budget figures reveal, since the federal budget excludes extra-budgetary spending. According to Cooper (2012), taking the state-guaranteed credits into account, the share of the defence budget in GDP would amount to 4.2 per cent in 2013–2015.

5.6 Defence spending up to 2023

Table 5.5 describes the federal budget for the four years 2012–2015. As can be seen, social policy is the biggest budget item, with around 6 per cent of GDP. In the same range as defence are the allocations to national security and law enforcement, with around 3 per cent of GDP each, and support to the national economy, which is supposed to fall from 3 per cent of GDP 2013 to 2 per cent in 2015.

Defence expenditure is planned to be between 3.1 and 3.8 per cent of GDP in 2013–2015 (Table 5.5). Judging from what has happened in the last two years, and what seems to be a continuing firm commitment to the reform of the Armed Forces, it is assumed that the defence budget will be between 3.5 and 4 per cent of GDP during the coming ten years. Russian experts confirm this and argue that as long as the tasks of rearmament, adjustments of pay and benefits, and making the Armed Forces effective and professional are not completed, the defence budget could very well rise to a level of around 4 per cent of GDP (Barabanov et al. 2013: 8). They also regard this as a maximum level taking into account the other demands on the federal budget, although it may be necessary

Table 5.5 The Russian federal budget 2012–2015; *billion RUR and per centages of GDP*

	2012 Law	2012 Actual	% GDP	2013 Law	% GDP	2014 Prel.	% GDP	2015 Prel.	% GDP
Total expenditure	13 035	12 891	20.6	13 387	19.8	14 102	19.2	15 316	18.8
Preliminary expenditure						389	0.5	1 207	1.5
General state issues	816	806	1.3	920	1.4	859	1.2	99	0.1
National defence	**1 832**	**1 812**	**2.9**	**2 106**	**3.1**	**2 772**	**3.8**	**2 865**	**3.5**
National security and law enforcement	1 821	1 843	2.9	2 038	3.0	1 884	2.6	2 074	2.5
National economy	2 052	1 968	3.1	1 750	2.6	1 682	2.3	1 630	2.0
Housing and utilities	240	228	0.4	157	0.2	144	0.2	115	0.1
Environment	23	22	0.0	24	0.0	24	0.0	24	0.0
Education	609	604	1.0	635	0.9	544	0.7	573	0.7
Culture	93	90	0.1	98	0.1	88	0.1	91	0.1
Healthcare	627	613	1.0	508	0.8	466	0.6	383	0.5
Social policy	3 867	3 860	6.2	3 962	5.9	4 009	5.5	4 197	5.2
Physical fitness and sports	46	45	0.1	54	0.1	29	0.0	30	0.0
Mass media	78	78	0.1	73	0.1	66	0.1	51	0.1
Debt service	332	329	0.5	425	0.6	541	0.7	628	0.8
Inter-budgetary transfers	600	599	1.0	634	0.9	617	0.8	585	0.7
Deficit/surplus	-121	-37	-0.1	-521	-0.8	-491	-0.7	-92	-0.1
GDP		*62 599*		*67 519*		*73 391*		*81 486*	

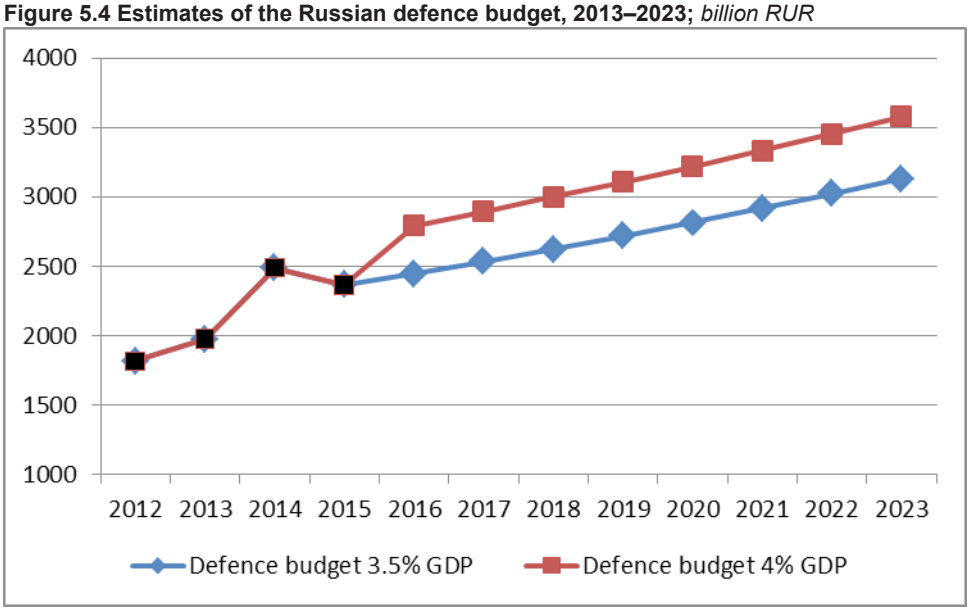
Source: Federal Treasury (2013); MoF (2012) for preliminary data 2014 and 2015.
Note: This table was compiled in July 2013. Totals have changed in later forecasts; however, the shares are practically the same.

in order to raise military capability to the anticipated level. To the argument that it is less plausible that an even higher level could be anticipated, one might add the argument that the MoD seems to have some problems in spending all of its allocation because of the problems of the procurement system, personnel shortages, and the inadequate capacity of the defence industry.

As an illustration of a hypothetical development, the size of the defence budget is estimated in Figure 5.4 under the assumption of a GDP growth rate of around 2 per cent in the next two years and then 3.6 per cent, as in the MED-2030 (2013) scenario for 2016–2023. The two curves in Figure 5.4 after 2015 show two scenarios: one with a 3.5 per cent share of defence in GDP and one with a 4 per cent share of GDP.

Based on the historical fact that the SIPRI estimates of Russia's total military expenditure as share of GDP have been in the range of 1–1.5 percentage points over the Russian defence budget, total military expenditure may be expected to range between 4.5 and 5.5 per cent of GDP.

Figure 5.4 Estimates of the Russian defence budget, 2013–2023; *billion RUR*



Source: Table 5.5 and MED's adjusted forecast for 2013–2016 as presented in *Vedomosti* (2013c).
Note: To calculate GDP, the lower end of the new MED forecast has been used for 2013–2016. The defence budget's actual shares as shown in Table 5.5 have been used for the years 2012–2015. The black dots show the size of the defence budget in these years. From 2017 the original MED-2030 (2013) forecast, conservative scenario, 3.6% annual growth in GDP has been used. From 2016 the blue line is based on the assumption that the defence budget is 3.5% of GDP and the red line is based on the assumption that the defence budget is 4% of GDP.

5.7 Conclusions

Defence spending is the most general single indicator of the resources provided to the military and it conveys a sense of the size of the military establishment and the relative importance of defence in comparison with other public spending. Defence spending creates an opportunity to strengthen military capability. The Russian defence budget was 2.9 per cent of GDP in 2012 and is expected to be 3.1 per cent in 2013. Although spending is rising, this share is lower than what was anticipated a couple of years ago. Nevertheless, in 2012, total military expenditure reached 4.4 per cent of GDP according to SIPRI's estimates, i.e. on par with that of the USA.

The main reason for spending being lower than was earlier planned is the considerably lower-than-expected growth in GDP. Other contributing factors are delays in implementation of the GPV-2020 and manning shortages which make it difficult for the MoD to spend its allocations at the pace originally planned. Deficiencies in the procurement system, which is plagued by legal and organisational problems, corruption and monopoly pricing behaviour, cause delays in implementation of the GPV, and a main factor is the backwardness of around 80 per cent of the defence industry, which will need more time to upgrade its technological base in order to be able to deliver the weapons and equipment demanded.

For the coming ten-year period, the main determinant for defence spending is the growth of GDP. The present regime's proposed administrative regulations do not enhance modernisation and growth, and annual growth in GDP is expected to be around 2–3 per cent. During the 2000s, when growth rates were exceptionally high, the average real growth of the defence budget was 6 per cent per year (using the GDP deflator); some experts believe it was even lower using the index of inflation in public consumption. However, the present prospects for economic growth look gloomy and it follows that defence spending will grow more slowly than previously. It may be assumed that, as previously, it will follow the growth rate of GDP. Defence has high priority but so have other political goals such as meeting social obligations and maintaining fiscal balance. Russian observers doubt that the defence budget share will rise over 4 per cent of GDP, and the assessment in this chapter is a GDP share of between 3.5 and 4 per cent. As long as growth does not pick up, defence spending will grow at a moderate rate, and the defence sector needs to work on its efficiency problems to improve military capability.

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6. The Defence Industry

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The defence industry has a long tradition in Russia as a source of national pride and guarantor of Russia's autonomy, and will play a key role in the reform of Russia's Armed Forces. As long as Russia continues to depend on domestic procurement, the defence industry's capacity will be vital for future military capability. The analysis below focuses on industrial organisation; labour capital and production technologies; research, development and defence system technology; defence deliveries to the Armed Forces; the arms trade; and industrial cooperation.

6.1 The State Armament Programme

A specific management tool for the defence industry sector is the State Armament Programme (GPV), as it specifies volumes and content of Russian military procurement. A GPV is planned for ten years and is replaced with a new one every five years. The present programme covers the period 2011–2020, and planning for a new GPV for the period 2016–2025 is under way (TS VPK 2013; Ptichkin 2013a). Compared to previous programmes, the GPV-2020 has so far not shown any signs of being underfinanced.

MoD Action Plan 2013

The objective of the GPV-2020 is to deliver modern weapons and equipment to the Armed Forces so that the proportion of their modern weapons and equipment will be 30 per cent by 2015 and at least 70 per cent by 2020. The Ministry of Defence (MoD) has been vague about what exactly 'modern' means (See Chapter 2 and 5). There has never been a further breakdown into what percentage should be new and what percentage will be renovated or modernised. The vagueness is probably intentional. The same imprecise way of presenting goals is to be seen in the MoD Action Plan for the years 2013–2020, available in Table 6.1. It appears to fill in some of the gaps as regards the annual orientation of the GPV-2020 and yearly milestones. However, it is unclear what the percentages are based upon, and the last row, giving numbers of units with modernised equipment, raises at least as many questions. The number '406 units' (*formirovanii*) in 2020, without denoting the size, status or function of these units, reveals next to nothing (ITAR-TASS 2013; Ministry of Defence 2013).

Table 6.1 MoD Action Plan 2013–2020: procurement of modern weapons.

Equipment of the Armed Forces by year and system type								
	2013	2014	2015	2016	2017	2018	2019	2020
Systems Total per cent	**19**	**26**	**30**	**41**	**48**	**59**	**64**	**70–100**
Dynamics in procurement of modern and upgraded armaments, per cent								
Submarines	47	47	51	53	59	63	67	71
Surface ships	41	42	44	47	54	59	65	71
Aircraft	23	30	37	45	55	59	67	71
Helicopters	39	54	63	71	76	79	81	85
Ground missile systems	27	64	64	82	100	100	100	100
Artillery	51	52	53	55	59	67	73	79
Armoured vehicles	20	25	37	44	56	67	75	82
Multi-role vehicles	40	44	48	52	56	60	65	72
Improved serviceability of armaments, materiel and special equipment, per cent by branch of service								
Ground Forces	65	75	80	85	85	85	85	85
Air Force	55	75	80	80	80	80	80	80
Navy	56	70	74	78	80	80	83	85
Development of advanced armaments, approval and serial production, month								
Aviation complex				Dec.				
Tanks, tracked armoured vehicles			Dec.					
Wheeled armoured vehicles			Dec.					
Air defence systems				Dec.				
Corvettes				Dec.				
Destroyers						Dec.		
Number of modernised units for each year compared to 2012								
	15	**27**	**61**	**112**	**184**	**260**	**315**	**406**

Sources: Ministry of Defence (2013).
Note: The percentages in the table relate to the share of modern systems in the total arsenals that the Armed Forces have at their disposal.

The Action Plan nevertheless does provide some idea of the overall intended direction. According to the Plan, the MoD planning assumes that production and delivery rates of aircraft as well as combat vehicles will be more or less evenly spread over the period up to 2020. Helicopter production is currently most intensive until 2014, when it will start to subside. Production and deliveries of surface ships and submarines are supposed to start in earnest only after 2015–2016. Deliveries of artillery systems should start to grow after 2016 and pick up even more speed after 2017. As for the Ground Forces' missile systems, all systems should be modern no later than 2017.

Actual procurement of new arms, military research and development (R&D) and the repair and modernisation of existing arms for the MoD and the other 'power ministries' are undertaken according to the yearly State Defence Orders (GOZ); see also Chapter 5 on defence spending.

Federal Target Programmes

In order to support the implementation of the GPV, the Russian government is promoting the development of the defence industry through Federal Target Programmes (FTPs) addressing the technological backwardness of the defence industry. The most central FTP is the 'Development of the Defence Industrial Complex until 2020', launched in March 2012. Compared to previous analogous programmes, the funding of FTP-2020 has increased considerably, equalling 3 trillion RUR. Government co-funding of this project is substantial. Earlier programmes for 2002–2006 and 2007–2010 were covered by state funding of 18 per cent and 40 per cent respectively. For the FTP-2020 state co-financing has increased to more than 60 per cent (Karavaev 2012: 182).

Other crucial programmes are the 'Development of Strategic Materials 2009–2015', as well as some others that focus especially on the branches of the defence industry that are being prioritised: aviation, space and missile technology, shipbuilding and radio-electronics. In addition to these FTPs, the defence industry has access to other industrial FTPs without a distinct military profile as well. In parallel with the planning for the new GPV for 2016–2025, two new FTPs are being prepared for the same period as regards the development of the defence industry as well as strategic materials, according to Russian Minister of Industry and Trade Denis Manturov (Ministry of Industry and Trade 2013).

6.2 Industrial organisation, labour, capital and production technologies

In early 2013, the Russian defence industry consisted of 1 340 companies and other entities according to the consolidated register for the defence-industrial complex[28] (TS VPK Informatsionnoe Agenstvo 2013). Many firms are small or medium-sized (Westerlund 2012: 73). The defence industry is represented in sixty-four of the eighty-three subjects of the federation (Dovguchits 2012: 214). The wide geographical distribution of the Russian defence companies – they are located in three out of four of the Russian regions – could hold back some of the real production potential of the defence industry. The point should not be overstated since most of these companies have much of the production chain in-house. It does, however, make efficiency gains through a more specialised production chain less probable as well as making it more difficult to create sustainable technological clusters.

Holding companies

Although the number of defence-related companies and entities has not diminished, the creation of large holding structures signals a consolidation of the defence industry. In form, this process is similar to the process large parts of the military industry in Western countries have undergone. In content, though, there are major differences. In many cases consolidation in Western countries was induced by private companies in order to create more competitive entities. In Russia, the consolidation process is state-driven and motivated by a growing domestic demand for high-tech military equipment in order to catch up with the West in quantitative as well as qualitative terms. The consolidation of Russian defence industries is therefore not as market-driven as it has been in the West.

[28] The *Svodnyi reestr organizatsii OPK* gives an approximate number of defence industry companies.

Considering that government institutions have only limited insight into the holding companies, the incentives for economic efficiency within the Russian defence industry are rather weak. Some experts even argue that holding companies exist to transfer state property to the country's elite and to facilitate money laundering. According to this view, companies are not governed primarily by business considerations; their actions serve to advance the influence and interests of politically appointed company managers (Blank 2012: 152–153; Westerlund 2012: 75). See also Chapter 5 on how corruption and soft budget constraints lead to inefficiency problems that are linked to the GOZ.

Nevertheless, the establishment of large state-owned industry-specific 'integrated structures' or holding companies has been the most significant change in the defence industrial sector. The objective was to establish between fifty and sixty integrated structures, allowing for vertical management mechanisms in order to further industrial efficiency and competitiveness. Up to 2013, sixty-one more or less integrated structures had been formed. Almost three-quarters of total production in the defence industrial sector have been concentrated in these structures (Karavaev 2013: 205). This model appears to have wide support within the Russian power elite, not least because there are some aspirations to create integrated structures including foreign defence companies after 2020 as well (Dovguchits 2012: 215–216).

International comparison

According to the Stockholm International Peace Research Institute (SIPRI), the Russian defence industry ranks among the five largest in the world. Still, its share in terms of arms sales by the largest companies in the world amounts to only 3.5 per cent, to be compared with the US share of almost 60 per cent. By international standards, Russian defence companies are thus small. Only six of the ten largest companies made it onto the SIPRI list of the world's top 100 arms-producing companies for 2011 (SIPRI 2013a).

Labour

Russian defence industry companies still have comparatively large numbers of employees, many of them unqualified, which is a remnant of their Soviet legacy. Insourcing, i.e. assuming financial responsibility for most of the links in the production chain as well as for social services such as child daycare centres and hospitals for employees, is still common among Russian companies. Maximising the number of employees may be a rational company strategy, since it ensures access to subsidies. However, the large number of unqualified personnel is not a competitive advantage. On the contrary, it acts as a brake on efforts to make the transition to modern production methods. Productivity for Russian defence workers appears to be quite low measured in, for example, average sale per employee compared to the ratio of leading international defence companies (SIPRI 2013b).

The main problems with regard to personnel supply remain the ageing labour force and lack of specialised technical skills at all levels within the companies. Both problems are part of the long-term consequences of the crisis and decline within the defence industry during the 1990s. Although the average age of people working in the defence industry has fallen slightly in recent years, to forty-six

years, and the recruitment base has grown somewhat, the underlying problem of underrepresentation of middle-aged employees remains (Dovguchits 2012: 218). The Federal Target Programme 'Development of the Defence Industrial Complex until 2020' includes training of 200 000 new engineers and technicians for work in the defence industry in the coming years. This is an ambitious goal since the figure corresponds to an entire yearly cohort of all engineers graduating from Russian universities and institutes of higher education.

Capital and technology

Physical capital also poses major challenges for the Russian defence industry. First, there is still vast unused production capacity at many companies. For these companies, this is associated with poor demand, but also with the obligatory overcapacity within the persisting Soviet planning system. Second, the production capacity is to a large extent still based on Soviet-inherited capital stock mainly consisting of worn-out machinery and production.

The main obstacle is the sheer number of defence industries. The size and share of state co-financing are now larger than those for previous programmes, but many companies will have to remain unsupported or resources will be distributed too thinly to be effective. The regulatory framework for public procurement that will be applied in 2014 will make it easier to renew the production facilities. However, the stipulation that domestic equipment should be prioritised at the expense of imports of foreign, especially Western, equipment could become a long-term competitive disadvantage.

6.3 Research and development and defence system technology

Russian defence technology lags behind foreign competitors in a number of key areas. The growing defence allocations will benefit defence R&D, but it will be unable to remedy existing structural problems by 2023. Russia needs to create an efficient system for evaluation and for selecting innovative defence R&D as well as make better use of civilian science at universities and research centres (Putin 2012). The government has so far failed to modernise the civilian research sector and for the defence sector even less progress has been made. Overall, the Russian innovation system remains under development and the challenges facing civil R&D are significant (Roffey 2013; OECD 2011: 194; Fomichev 2012: 192).

A Russian Advanced Research Foundation was initiated in 2012. It will oversee some 150 research efforts to ensure Russian superiority in defence technologies. It will also analyse the risks of any Russian technological backwardness and technological dependence on other powers (*RIA Novosti* 2012). Furthermore, the Ministry of Defence has established a system for advanced research and military technology to identify breakthrough technologies for use by the Russian military. The new structure would not duplicate the work of the Advanced Research Foundation (*The Moscow Times* 2013).

Platforms for combat vehicles

In 2011, the MoD announced that R&D work was taking place in order to develop next-generation universal platforms for combat vehicles. Of these, the *Armata* is a tracked heavy vehicle platform, intended to form the basis for a main battle tank and, among other options, a heavy infantry fighting vehicle and several types of self-propelled artillery. The *Kurganets*-25 is a tracked medium-heavy vehicle platform, planned to replace the BMP and BMD series. In addition, the *Boomerang* is a wheeled combat vehicle platform for an armoured personnel carrier, infantry fighting vehicle, light tank or self-propelled gun. Finally, the *Typhoon* is a lightweight wheeled platform intended for a whole family of armoured lorries and vehicles.

Command, control, computers, intelligence, surveillance and reconnaissance (C4ISR)

Developing computer-based command and control systems, enhancing situational awareness and introducing automated control systems are clearly a priority. Russia created the holding company Sozvezdie in 2004 in order to speed up R&D and innovation in this area. There have been recurrent problems with introducing the technology in the Armed Forces. In 2013, the decision appeared to have been made to order the automated command and control system offered by Sozvezdie for the Ground Forces in spite of the many problems. Experts, however, were critical of the choice since it did not create a system that was interoperable with other arms of the Armed Forces. The alternative, *Zaria-25*, was at a much earlier stage of development and tests of this system were planned for 2015 (*Izvestiia* 2013).

Aircraft, helicopters and air defence

The defence industry is expected to develop new aircraft, helicopters and air defence systems as well as surface combat vessels and submarines which all require significant inputs of R&D (Oxenstierna and Westerlund 2013: 6). Research on unmanned aerial vehicles (UAVs) is a high priority, but the technological gap has become clear (Nordic intelligence 2012). In 2009 the Russian MoD acquired Israeli drones because of the problems with the Russian UAV programme. The transfer of technology is probably more important than the equipment itself. The company Vega was Russia's main developer of UAVs, but failed to live up to expectations, and Tupolev, the founder of the Russian UAV design, has seen a rapid deterioration of its R&D capability. The industry is finding it difficult to attract and retain engineering expertise (Fedutinov 2012).

In 2011–2012 four prototypes of the future multi-role T-50 (PAK-FA) aircraft were delivered by the aircraft manufacturer KnAAPO (a subsidiary to Sukhoi). Similarly, the aircraft engine manufacturer Saturn was supposed to complete the second stage of the development of a new engine for fifth-generation fighter aircraft (Frolov 2013). However, it has been questioned whether the engine needed can be developed (Makienko 2010). Priority has been given to developing a new advanced high-speed helicopter by 2020 that is able to attack fighter jets and be invisible for radars (Barabanov 2011).

Nuclear weapons and missile technology

There is limited information on R&D concerning nuclear weapons, but one example is a new generation of nuclear warheads intended to enhance the combat readiness of the naval strategic forces (Stukalin 2012a). Russia is still using liquid fuels for intercontinental ballistic missiles (ICBMs) and has not

yet managed to develop solid fuel, this development has been prioritised by the government (Fedutinov 2012). The tactical missile industry is expected to expand its capacity to produce new missiles requiring advanced R&D (Oxenstierna and Westerlund 2013: 6). Furthermore, the S-500 air defence system is expected to be ready for delivery in 2017.

Space

The Russian space industry has been struggling with a number of difficulties. There have recently been failures of the Russian space programme, with the unsuccessful launch of the *Phobos-Grunt* automatic interplanetary station in 2011, the launch of the *Proton-M*, which destroyed three *GLONASS-M* global navigation satellites (*RIA Novosti* 2013a), and a GEO-IK-2 military geodesic satellite that was put into the wrong orbit and could not be used (*RIA Novosti* 2013b). These are examples of some of the problems that the space industry is struggling to overcome. In addition many of these satellites continue to be based on Soviet technology. Another example of Soviet-based technology is the development of an airborne laser system, the *Sokol-Eshelon*, as a countermeasure against parts of the US national missile defence system (Stukalin 2012b).

At present, links between civil and military research, as well as between research and production are largely lacking in Russia. For the transformation of the defence industry into a high-technology complex it will have to work more closely with the civilian sector. Technology transfer from other countries will, furthermore, become increasingly important.

6.4 Defence deliveries to the Armed Forces

Implementation of the GPV-2020 started in 2011. In total, the State Defence Order of 2011, the GOZ-2011, amounted to nearly RUR 582 billion. Compared to earlier years, the Russian leadership played a more active role in GOZ-2011, following up on contracting and implementation. The defence order also became more transparent, as its absolute volume was revealed as well as a breakdown into new equipment, renovation and modernisation, and R&D (Frolov 2012a: 40–41). Furthermore, in 2012 the State Defence Order became triennial in a new effort to come to terms with late contracting.

The GOZ-2012 thus refers to the period 2012–2014. Another peculiarity of 2012 was the official writing down of the defence order, from an initial volume of RUR 904 billion to RUR 818 billion, which was announced in April 2012 by then Deputy Minister of Defence Aleksandr Sukhorukov. Regarding contracting in 2012, the government did not succeed in concluding all anticipated contracts as planned. In early May, only two-thirds of all contracts had been placed. Even if that figure increased to just over 95 per cent in August, 2 per cent of the contracts had not been concluded at the end of the year, which represented 9 per cent of the anticipated GOZ-2012 payments (Frolov 2013: 31–33).

There are few data on production of and government orders for command and control systems and precision weapons. Therefore, an analysis of development in these areas has not been included in the detailed analysis below. On a

more general level, however, it is safe to assume that much effort is going into developing precision weapons – both on long-distance and on short-distance. This and developing command and C4ISR systems is clearly one of the priorities for the coming years (President of Russia 2013).

6.4.1 Strategic missiles and space systems

Under present circumstances, the estimated production targets for strategic missiles in the GPV-2020 are optimistic. In order to reach the targets, current investment programmes in the production facilities must be implemented successfully. Deliveries of seven ICBMs (*Topol-M* and *Yars*) in 2011 and nine in 2012, as presented in Table 6.2, signify that the production rate at the weapons and ammunition factory Votkinskii zavod is not sufficient to meet even the minimum target of the present assessment of the GPV-2020, of 100–150 missiles. As from 2013, production of missile systems at the Votkinskii zavod is supposed to more or less double (Bondarenko 2013). Whether this is implemented from 2013 will provide an important indication of future development.

As for production of submarine-launched ballistic missiles, the *Bulava* test launches supposedly continued until the end of 2012, when it was reported without further details that serial production was about to begin (Frolov 2012a: 45). Production of the *Sineva* amounted to twenty-six missiles in 2011–2012. Testing for the updated version, Liner, was completed in 2011. The present assessment of the GPV-2020 is 224–250 missiles, and it is therefore still uncertain if this target can be met, especially regarding the *Bulava*.

6.4.2 Fixed-wing aircraft

The GPV-2020 includes deliveries of more than 600 new aircraft by 2020 (Koshukov 2011). In 2011 and 2012, deliveries to the Armed Forces amounted to fifty-nine new and eighty-seven renovated or modernised aircraft. The share of new aircraft in relation to renovated or modernised aircraft increased from 35 per cent of all aircraft delivered in 2011 to 53 per cent in 2012 (Frolov 2012a; Frolov 2013).

Strategic bombers

Deliveries of strategic bombers hit a low point in 2011 and 2012. Two modernised Tu-160s were delivered to the Armed Forces in 2011 together with two modernised Tu-95MSs. In 2012, only two modernised Tu-95MSs were delivered. It is uncertain how these deliveries were related to the actual GOZ for these years.

Fighter aircraft

Regarding fighter aircraft, serial deliveries of the Su-35S were initiated in 2011; two planes were delivered in 2011 and eight in 2012, which was in line with the GOZ. The aircraft manufacturer Sukhoi was contracted in 2011 for forty-eight Su-35Ss to be delivered by 2015, which is approximately half the volume supposedly stipulated by the GPV-2020. Apart from 2009, when thirty-four MiG-29SMTs went to the Armed Forces after Algeria cancelled a contract on quality grounds (these were in excess of the number planned in the GOZ),

Table 6.2 Strategic missiles and space systems: assessment of State Defence Orders (GOZ) and defence industry deliveries in 2011–2012 and State Armament Programme (GPV) targets as of 2013

STRATEGIC MISSILE AND SPACE SYSTEMS	New or R/M	GOZ 2011–2012	Deliveries 2011–2012	GPV-2020 (as of 2013)
Intercontinental ballistic missiles	**New**	**n/a**	**16**	**100–150**
Topol-M	New	n/a	10	n/a
Yars (RS-24)	New	n/a	6	n/a
Submarine-launched ballistic missiles	**New**	**n/a**	**38**	**224–250**
Sineva	New	n/a	26	100
Bulava	New	n/a	12	124–150
Early-warning radar systems *Voronesh-DM*	**New**	**n/a**	**n/a**	**2**
Satellites (number launched)	**New**	**n/a**	**16**	**n/a**

Sources: The table is based on Frolov (2013: 40–41) and *Kommersant* (2013: 9).
Note: Regarding GOZ data, when the total volumes for multiple years are known but yearly data are lacking, it is presumed that yearly defence orders are evenly spread out over the whole contracting period for longer contracts.
Abbreviations: R/M = renovated or modernised; n/a = not available.

deliveries of fighter aircraft since 2010 have on average corresponded to twenty-four aircraft per year, compared to eight and ten in 2007 and 2008 respectively.

Attack aircraft

As for attack aircraft, Sukhoi was contracted in 2012 to follow up on an earlier contract from 2008, for thirty-two Su-34s, to deliver ninety-two Su-34s in 2014–2020 (Frolov 2013: 34). This means that production has to double from an average of eight aircraft over the last three years to at least fifteen. The aircraft manufacturer Irkut was contracted in 2012 to produce 30 Su-30SMs in 2012–2015. Irkut also committed itself to deliver fifty-five Yak-130 trainer aircraft in 2011 (Frolov 2013).

Military transport aircraft

Regarding military transport aircraft, the Russian aviation industry has been dependent on other countries since the dissolution of the Soviet Union (Westerlund 2012: 82). However, there is probably a long-term Russian goal to replace the foreign dependence with domestic production. Development of the joint Russo-Ukrainian An-70 medium-range transport aircraft continued in 2011–2012, but with difficulties at the political level. Also in 2012, the Russian aircraft manufacturer Aviastar assembled the first prototype of the Il-476/Il-76MD-90A, and initiated serial production of three transport aircraft of the same type. As Table 6.3 shows, the GPV-2020 probably contains a total of 110 medium-range transport aircraft. However, the exact breakdown between the number of An-70s and Il-476s is currently under reconsideration and has yet to be settled. Apart from medium-range transport aircraft, Russia has expressed its interest in buying the second, so far unassembled, strategic airlift An-225 *Mriya* cargo aircraft from the Ukrainian aircraft manufacturer Antonov (Frolov 2013).

Data on the GOZ and GPV are incomplete and it is therefore difficult to draw far-reaching conclusions about the production capacity of the fixed-wing aircraft industry. It appears that new production fulfilled only half of orders received in 2011 and just two thirds in 2012. However, production targets for combat

Table 6.3 Fixed-wing aircraft: assessment of State Defence Orders (GOZ) and defence industry deliveries in 2011–2012 and State Armament Programme (GPV) targets as of 2013

FIXED-WING AIRCRAFT		New or R/M	GOZ 2011–2012	Deliveries 2011–2012	GPV-2020 (as of 2013)
Strategic bombers		**R/M**	**n/a**	**6**	**n/a**
	Tu-160	R/M	n/a	2	n/a
	Tu-95MS	R/M	n/a	4	n/a
Long-range bombers	Tu-22M3	**R/M**	**n/a**	**1**	**n/a**
Attack aircraft	Su-34	**New**	**n/a**	**16**	**28–108**
Multi-role aircraft	**T-50 (PAK-FA)**	**New**	**0**	**0**	**70**
Fighter aircraft		**New**	**>10**	**20**	**106–210**
	MiG-31BM	**R/M**	**n/a**	**25**	**n/a**
	MiG-35S	New	n/a	n/a	24–48
	Su-27SM/SM3	New	n/a	10	12
	Su-30M2/SM	New	n/a	n/a	34
	Su-35S	New	10	10	48–90
	MiG-29K (Carrier-based aircraft)	New	n/a	n/a	26
Close air support aircraft	**Su-25SM/UBM**	**R/M**	**n/a**	**22**	**n/a**
Anti-submarine warfare aircraft		**R/M**	**n/a**	**2**	**n/a**
	Il-38/38N	R/M	n/a	1	n/a
	Tu-142/M/M3	R/M	n/a	2	n/a
Trainer aircraft	Yak-130	**New**	**>11**	**23**	**65**
Cargo aircraft		**New**	**n/a**	**n/a**	**110**
	Il-76	**R/M**	**n/a**	**22**	**n/a**
	An-70	New	n/a	n/a	0–60
	Il-476/Il-76MD-90A	New	n/a	n/a	50–110
Heavy cargo aircraft		**New**	**n/a**	**0**	**20**
	An-124	**R/M**	**n/a**	**5**	**20**
Airborne early-warning aircraft	A-50U	**R/M**	**n/a**	**2**	**n/a**
Special aircraft	Il-20/22	**R/M**	**n/a**	**2**	**n/a**

Sources: The table is based on Frolov (2013: 40–41) and *Kommersant* (2013: 9).
Note: Regarding GOZ data, when the total volumes for multiple years are known but yearly data are lacking, it is presumed that yearly defence orders are evenly spread out over the whole contracting period for longer contracts.
Abbreviations: R/M = renovated or modernised; n/a = not available.

aircraft, such as the Su-34 attack aircraft and the Su-35S fighter aircraft, appear to be fairly realistic, even though serial production has only just started. After a new manufacturer was contracted for the Yak-130 trainer aircraft, the current production target of sixty-five aircraft also seems achievable. It is still unclear whether the supposed production targets for the T-50 (PAK-FA), Su-30SM, MiG-29K and Il-476/Il-76MD-90A will be attainable, as serial production has yet to begin.

6.4.3 Helicopters

According to data released on the GPV-2020, more than 1 000 new helicopters of different types are to be delivered to the Armed Forces by 2020 (Koshukov 2011). The GPV-2020 anticipates about half of this volume up to 2013 (see Table 6.4).

Table 6.4 Helicopters and unmanned aerial vehicles: assessment of State Defence Orders (GOZ) and defence industry deliveries in 2011–2012 and State Armament Programme (GPV) targets as of 2013

HELICOPTERS AND UNMANNED AERIAL VEHICLES	New or R/M	GOZ 2011–2012	Deliveries 2011–2012	GPV-2020 (as of 2013)
Attack helicopters	**New**	**52**	**76**	**>197–347**
Ka-52	New	36	33	30–180
Ka-226 (naval)	New	n/a	15	n/a
Mi-28N	New	16	28	167
Transport/attack helicopters	**New**	**>26**	**153**	**144–208**
Mi-8/MTB/AMTSh	New	n/a	120	120
Mi26/T (heavy transport)	New	4	11	22–40
Mi-35M	New	22	22	22–48
Trainer helicopters *Ansat-U*	**New**	**n/a**	**11**	**n/a**
Unmanned aerial vehicles (UAVs)	**New**	**n/a**	**37**	**n/a**
Searcher MK-II/*Forpost*	New	n/a	1	n/a
Pchela-1K (tactical/operational)	New	n/a	n/a	n/a
Tipchak (tactical)	New	n/a	6	n/a
Orlan-3	New	n/a	n/a	n/a
Orlan-10	New	n/a	10	n/a
E-95M	New	n/a	20	n/a

Sources: The table is based on Frolov (2013: 40–41) and *Kommersant* (2013: 9).
Note: Regarding GOZ data, when the total volumes for multiple years are known but yearly data are lacking, it is presumed that yearly defence orders are evenly spread out over the whole contracting period for longer contracts.
Abbreviations: R/M = renovated or modernised; n/a = not available.

According to data released on the GOZ, more than seventy-eight new helicopters were to be delivered to the Armed Forces in 2011. In 2011 the industry reported that it had delivered more than 100 helicopters, and at the end of 2012 the MoD announced that it expected 127 helicopters to be delivered that year. However, according to data assembled by the Centre for Analysis of Strategies and Technologies (CAST) in Moscow, approximately ninety-one helicopters were delivered in 2011 and 149 in 2012 (Frolov 2012a; Frolov 2013).

In 2011, eleven contracts were concluded between the MoD and the helicopter industry. According to Dmitrii Petrov, CEO of Vertolety Rossii, all contracts for helicopters have to be fulfilled by 2018 and no more helicopters will be ordered under the present GPV-2020 (Kozlov 2011). Compared with GOZ data for 2011–2018 based on known contract volumes, deliveries of the Ka-52 and Mi-28N attack helicopters, as well as the Mi-35M transport/attack helicopter, were fulfilled according to, or even ahead of, plan in 2011–2012.

So far, the helicopter industry has been able to meet the GOZ targets. Based on published GPV data, delivery targets up to 2018 will probably be met for all systems reported in Table 6.4. Also, compared to an earlier assessment of the GPV-2020 (Westerlund 2012), targets for the Mi-28N appear to have been adjusted downwards.

Table 6.5 Air defence systems: assessment of State Defence Orders (GOZ) and defence industry deliveries in 2011–2012 and State Armament Programme (GPV) targets as of 2013

AIR DEFENCE SYSTEMS	New or R/M	GOZ 2011–2012	Deliveries 2011–2012	GPV-2020 (as of 2013)
Long-range surface-to-air missile systems	**New**	**9**	**7**	**28–62**
S-400 (battalions)	New	9	7	28–52
S-500 (battalions)	New	0	0	10
Short- and medium-range surface-to-air systems *Pantsir-S1*	**New**	**n/a**	**48**	**>100**
Air surveillance radar systems	**New**	**n/a**	**25**	**n/a**

Sources: The table is based on Frolov (2013: 40–41) and *Kommersant* (2013: 9).
Note: Regarding GOZ data, when the total volumes for multiple years are known but yearly data are lacking, it is presumed that yearly defence orders are evenly spread out over the whole contracting period for longer contracts.
Abbreviations: R/M = renovated or modernised; n/a = not available.

6.4.4 Air defence systems

Serial production of the S-400 long-range air defence system has begun, and orders in 2011 and 2012 were more or less met. Four battalions of S-400s were delivered in 2011 and three battalions in 2012. Deliveries in 2011 were fullfilled according to the GOZ, as were the previous four deliveries in 2007–2010. Since contracting for 2012 was delayed in 2010, and the production cycle of one battalion allegedly is twenty-four months, the fall in production in 2012 was probably caused by late contracting (Konovalov 2010). Assuming a constant rate of production of four battalions per year, a maximum of another forty battalions will be delivered by 2020. This is in the middle of the estimated range for the GPV-2020 used in Table 6.5.

As for the Pantsir-S1 short-range surface-to-air system, twenty units were delivered in 2011, double the amount in 2010. In 2012 the volume increased by a further twenty-eight units. This indicates that previous problems in delivering this system have been resolved (Westerlund 2012: 83). More than 100 systems are planned to be delivered to the Russian Armed Forces by 2020 (Lenta.ru 2012a). Production targets in the GPV-2020 will probably be met, as some production capacity will be shifted from exports to deliveries to the Russian Armed Forces as of 2013 (Lenta.ru 2012a; Lenta.ru 2012b).

Deliveries of the next-generation long-range S-500 air defence system are set to begin in 2017. To meet the presumed targets of the GPV-2020, the new production facilities under construction in Nizhnii Novgorod and Kirov by the manufacturer Almaz-Antei will have to start serial production in 2015 or 2016 as planned. It is furthermore important that production starts of the 77N6-N and 77N6-N1 supersonic missiles that are designed for these systems (Mikhailov 2012).

6.4.5 Naval systems

Regarding naval systems, almost RUR 108 billion were allocated for shipbuilding and repair in 2011 and 93 billion in 2012 (Frolov 2012a: 45; Frolov 2013: 37). In July 2012 President Putin stated that the GPV-2020 comprised fifty-one new surface vessels, sixteen multi-role submarines and eight strategic submarines (of the *Borei* class). Furthermore, approximately a quarter of the GPV-2020, or RUR 4.44 trillion, was allocated for the Navy (President of Russia 2012).

Submarines

The introduction of new submarine classes has been fraught with difficulties. In January 2013, the first submarine of the *Borei* class was delivered to the Navy. The second submarine of this class and the first in serial production underwent technical trials in 2012 and was expected to be delivered in late 2013. Originally, both submarines should have been delivered in 2012. The third submarine of this class was launched from the slipway in December 2012 and the remaining five of this class were finally contracted in May 2012. Due to technical problems, trials with the first *Yasen* class nuclear multipurpose attack submarine continued from 2011 into the first half of 2013 (Frolov 2013). Delivery was rescheduled to late 2013 instead of 2012. A second *Yasen* submarine is expected to be delivered in 2015 (Lenta.ru 2013b). Production of the *Lada* class submarines was frozen in 2011–2012 until design changes had been made due to the fact that the lead ship had fallen short of requirements during tests (see also Table 6.6).

Surface vessels

Regarding surface vessels, in 2011–2012 previously contracted shipbuilding and repair work continued, and some new contracts were drawn up for new frigates and corvettes as well. Deliveries of surface vessels which would have a real impact on Russian naval capacity have not yet begun. In 2012 expected deliveries of two corvettes and a frigate failed to materialise (Kretsul 2013). In December 2012, Deputy Minister of Defence Yurii Borisov acknowledged that there was a lag in shipbuilding, but believed that it would be eliminated in the next three years (Interfax 2012).

Table 6.6 Naval systems: assessment of State Defence Orders (GOZ) and defence industry deliveries in 2011–2012 and State Armament Programme (GPV) targets as of 2013

NAVAL SYSTEMS	New or R/M	GOZ 2011–2012	Deliveries 2011–2012	GPV-2020 (as of 2013)
Strategic submarines *Borei* class (Project 955)	**New**	**2**	**0**	**8**
Delta IV (Project 667BDRM)	**R/M**	**n/a**	**1**	**1**
Nuclear-powered submarines	**New**	**>1**	**1**	**>6**
Antey class (Project 949A/B)	**R/M**	**n/a**	**1**	**2**
Yasen class (Project 885/885M)	New	1	0	6
Shtuka-B class (Project 671RTM(K)/971)	New	n/a	1	n/a
Diesel-electric submarines	**New**	**n/a**	**n/a**	**9**
Lada class (Project 677)	New	0	0	3
Varshavyanka class (Project 6366)	New	n/a	n/a	6
Aircraft carriers *Adm. Kuznetsov* (Project 11435)	**R/M**	**n/a**	**(0)**	**1**
Missile cruisers	**R/M**	**n/a**	**1**	**2–3**
Slava class (Project 11641)	R/M	n/a	1	1?
Kirov class (nuclear-powered; Project 11442)	R/M	n/a	n/a	1–2
Amphibious assault ship *Mistral* class (France)	**New**	**(0)**	**(0)**	**2–4**
Destroyers *Sarych* class (Project 956)	**R/M**	**n/a**	**1**	**n/a**
Frigates	**New**	**>1?**	**1**	**15**
Adm. Gorshkov class (Project 22350)	New	1	0	6
Krivak class (Project 11356M)	New	n/a	n/a	6
Gepard class (Project 11661K)	New	n/a	1	1
New frigate class	New	n/a	n/a	2
Corvettes	**New**	**>2**	**3**	**15–20**
Tarantul class (Project 12411)	**R/M**	**n/a**	**1**	**n/a**
Steregushchii class (Project 20380/20385)	New	2	1	10–12
Buyan class (Projects 21630/21631)	New	n/a	2	7
Amphibious vessels	**R/M**	**n/a**	**2**	**n/a**
Zubr class (Project 12322)	R/M	n/a	1	n/a
Ropukha class (Project 775/775M)	R/M	n/a	1	n/a
Support vessels	**New**	**n/a**	**11**	**n/a**
	R/M	**n/a**	**1**	**n/a**
Coastal missile systems	**New**	**n/a**	**2**	**n/a**
K300 *Bastion*	New	**n/a**	**1**	n/a
Bal	New	**n/a**	**1**	n/a

Sources: The table is based on Frolov (2013: 40–41) and *Kommersant* (2013: 9).
Note: Regarding GOZ data, when the total volumes for multiple years are known but yearly data are lacking, it is presumed that yearly defence orders are evenly spread out over the whole contracting period for longer contracts.
Abbreviations: R/M = renovated or modernised; n/a = not available.

In 2012, construction of the first of the two *Mistral* class amphibious assault ships was initiated. Delivery of the first ship is scheduled for 2014 and the second for 2015 (Frolov 2012a; ARMS-TASS 2013). Procurement of the *Mistral* class ships has been the subject of considerable controversy within the defence community in Russia. It is thus not yet certain that Russia will actually exercise its option of building two additional ships at Russian shipyards.

As for naval systems, it is still doubtful whether the ambitious plans for the period up to 2020 can be realised. In May 2013 Deputy Prime Minister Dmitrii Rogozin expressed concern that the GPV-2020 would not be realised where planned deliveries of new and renovated surface ships and submarines were concerned (Ptichkin 2013b). First, contracting for naval systems has been persistently late, which causes considerable delays. Second, the complexity of naval systems causes serious delays. This is true not least as regards submarines. Third, modernisation of the Russian shipbuilding industry under the dominant state-owned holding company OSK has not been impressive. In 2013 the OSK management was replaced, and Dmitrii Rogozin stated that he would work closely with the new leadership to come to terms with the persistent problems of the shipyard industry.

6.4.6 Combat vehicles and ground missile systems

In 2011 the MoD rejected the option of buying any more T-90A tanks and BMP-3 infantry combat vehicles. It preferred upgrading of T-72B tanks to T-72BAs since that would give added capability but at reduced cost compared to the T-90A. As shown in Table 6.7, almost 530 T-72Bs have been contracted for upgrading to T-72BAs under the GPV-2020 up to 2014. As for the remaining deliveries of the BMP-3, a significant number were delivered in 2012 (originally scheduled for delivery in 2011). In 2011, the development programme of the BTR-90 was terminated as the concept is obsolete (Frolov 2012a: 47). Deliveries of the BTR-80/82 continued in 2011–2012 and were probably in accordance with the GOZ. As for deliveries of the BMD-4M and the BTR *Rakusha*, proposed deliveries of ten units each were not fulfilled in 2011, due to the manufacturer's financial problems. Probably no more than three units of each were delivered (Frolov 2012a: 48).

Where the Iveco LMV M65 light multi-role vehicle of Italian origin is concerned, the GPV-2020 has probably been revised under the present Minister of Defence Sergei Shoigu. Contracts have been signed for 358 vehicles, and there are discussions on 1 800 vehicles in total. Originally the figure was 3 000 vehicles (Bogdanov 2013). As mentioned above, R&D is under way to develop the next generation of universal platforms for combat vehicles and it seems that the Russian leadership is yet to decide on exactly what vehicles to procure. In September 2013, Putin stated at a meeting on the GPV for the Ground Forces that: 'As of yet, it is unclear how much of this technology [military vehicles] should be procured in the next 5–7 years' (President of Russia 2013).

Table 6.7 Combat vehicles and ground missile systems: assessment of State Defence Orders (GOZ) and defence industry deliveries in 2011–2012 and State Armament Programme (GPV) targets as of 2013

COMBAT VEHICLES AND GROUND MISSILE SYSTEMS	New or R/M	GOZ 2011–2012	Deliveries 2011–2012	GPV-2020 (as of 2013)
Tanks *Armata*	**New**	**0**	**0**	**2 300**
	R/M	**312**	**312**	**n/a**
T-80BV	R/M	115	115	>115
T-72BA, T-72B/B1	R/M	197	197	>527
Armoured vehicles, wheeled	**New**	**>67**	**407**	**>358–1 800**
BTR-70	**R/M**	**n/a**	**150**	**n/a**
BTR-80/82	New	n/a	300	n/a
Tigr/Tigr-M	New	n/a	40	n/a
Iveco LMV M65 (Light multi-role vehicle; Italy)	New	67	67	358–1 800
Armoured vehicles, tracked	**New**	**20**	**102**	**n/a**
	R/M	**135**	**377**	**n/a**
BMP-2	R/M	n/a	242	n/a
BMP-3	New	n/a	83	n/a
BMD-4M (for the Airborne Forces)	New	10	3	n/a
BMD-2 (for the Airborne Forces)	R/M	135	135	n/a
BTR *Rakushka*	New	10	3	n/a
BRM 3K *Rys*	New	n/a	10	n/a
RChM *Kashalot*	New	n/a	3	n/a
Transport vehicles	**New**	>6 000	12 571	**n/a**
Lorries	New	>6 000	>4 000	≈50 000
Self-propelled artillery systems 2S25 *Sprut-SD*	**New**	**n/a**	**10**	**n/a**
Artillery and mortar systems	**New**	**n/a**	**120**	**n/a**
Ground missile systems 9K720 *Iskander-M* (Launchers)	**New**	**n/a**	**5**	**120**

Sources: The table is based on Frolov (2013: 40–41) and *Kommersant* (2013: 9).
Note: Regarding GOZ data, when the total volumes for multiple years are known but yearly data are lacking, it is presumed that yearly defence orders are evenly spread out over the whole contracting period for longer contracts.
Abbreviations: R/M = renovated or modernised; n/a = not available.

According to the MoD, in a first phase, 2011–2015, the main focus for the armament of the Army is on the procurement of modern weapon systems and military equipment for missile and artillery units, reconnaissance units, electronic warfare and communication as well as automated systems for tactical control. In a second phase, 2016–2020, efforts will be concentrated on comprehensive armament of Army units with new, modern equipment founded on standardised basic platforms (*RIA Novosti* 2011).

With regard to production of newly manufactured and upgraded combat vehicles, Russia has considerable capacity, as previously reported (Westerlund 2012: 84). Therefore, it is probable that planned deliveries of most of these systems will be implementable. However, as production will shift to equipment based on the universal combat vehicle platforms currently under development, the situation looks more unclear after 2015. Production capacity of the Iskander-M ground missile system is still too low to meet the targets of ten battalions by 2020. Current investments in the production capacity of the Votkinskii zavod are crucial for the future production of the system.

6.5 Russian arms trade and international cooperation

The Russian defence industry's earlier exposure to and relative dependence on the international arms market has gradually diminished because of growing domestic orders. Nevertheless, arms exports and international cooperation are still important as they contribute to creating new jobs and developing Russian technical and scientific potential. The Russian defence companies that have been able to export their products have probably benefited from the competition on the international arms market as a benchmark for cost effectiveness and quality standards.

There is, however, an inherent priority conflict between production for the domestic Russian market and exports. Where there is limited production capacity or specific production bottlenecks, domestic demand will be prioritised over exports. In the long run, this approach might undermine production for the domestic market as well. Companies might forgo important income from exports, with a negative impact on their investments in development and research. The prospects for future contracts might diminish as potential customers turn to other suppliers.

Regarding the Commonwealth of Independent States (CIS) countries, Russia has tried to reduce its dependence on CIS producers by substituting their production or incorporating them into the Russian defence industry. This import substitution policy is most pronounced in the relationship with Ukraine (Kramnik 2012), even when continued cooperation would make more economic sense. For example, instead of building two new plants for the production of helicopter engines outside Saint Petersburg and Moscow, it would have been cheaper to continue to buy these engines from the Motor Sich plant in Zaporozhye in Ukraine (Bukkvoll 2013: 22). Belarus, on the other hand, is more or less considered a 'Russia supplier' (Cooper 2012: 185). In December 2012, Belarusian defence companies were granted access to Russian state orders under the same rules as domestic companies. Russia has furthermore tried to purchase the best Belarusian companies and integrate them with Russian defence companies (Dyner 2013).

Continued or extended intra-CIS cooperation would probably not result in any technological breakthroughs or become a significant game changer for the performance of the Russian defence industry. As for non-CIS countries, Russian defence industrial cooperation will almost certainly continue in spite of the rhetoric of protectionism. The main difference is that foreign competition will not be allowed to play the disciplinary role for the Russian domestic defence industry anticipated by the former Minister of Defence, Anatolii Serdiukov. In its place, offset programmes will move to the centre of Russian policy as new drivers for defence industrial cooperation with foreign countries. From a Russian perspective, technology transfers, foreign direct investments or other offset schedules might even be considered more important than the actual procurement of foreign defence systems. However, from the foreign companies' point of view, it is in their interests to be compensated as fully as possible for

technology transferred to Russian companies or simply to restrict technology transfer (Westerlund 2012: 86).

Through defence industrial cooperation with other countries, Russia will be able to maintain a wider and more advanced production of defence systems than it would if it refrained from cooperation. This in turn will have a positive impact on Russian military capability up to 2023. However, cooperation will not help solving the industry's fundamental structural problems or ameliorating its economic inefficiency.

6.6 Conclusion

There were signs that the defence industry was recovering in 2013. There has been additional productivity growth and the labour force is no longer shrinking. However, it is still too early to regard this development as stable. The positive trend is underpinned mainly by existing stimulus programmes and the State Defence Orders of the present GPV-2020. Companies are still under pressure from their extensive social obligations, which counteract attempts to remedy the imbalances of skilled and unskilled workers and to automate work processes.

The processes of consolidating smaller companies into large holding companies could strengthen the defence industry's ability to support Russia's military capability up to 2023. However, as consolidation is taking place in a country where corruption is part of the organisational culture, the outcome is uncertain. The problems facing defence R&D will have an adverse effect on Russia's military capability both as regards the quality of weapons and equipment delivered and as regards the ability to develop high-technology advanced weapons and supply the defence industry with highly qualified specialists. The prospects for international cooperation in the defence area will also be smaller with an underdeveloped R&D sector.

The policies to support the renewal of the Russian defence industry will be partially successful and will strengthen the industrial ability to support Russian military capability to 2023. Of great importance in this context is the degree to which the Russian defence industry manages to acquire new technology and further improve its productivity. The defence industry will probably not be able to deliver all the weapons and equipment demanded by the Armed Forces. However, increased funding will help it increase deliveries and certain industries will meet or come close to meeting production targets (e.g. air defence systems and helicopters). The future for the companies producing combat vehicles looks more uncertain and, when it comes to weapons and equipment still being developed, Russia appears to continue to struggle in areas such as C4ISR, UAVs and precision weapons. The policies pursued on a national level, where the emphasis is on domestic production and national self-sufficiency, will hamper technology transfer and thereby prolong the process of catching up and closing the technology gap. Indeed, Russia is still at risk of falling even further behind the West.

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7. Russian Military Capability in a Ten-Year Perspective

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At first the dismissal of Defence Minister Anatolii Serdiukov in November 2012 appeared to put the future of Russian military reform in question. The initial statements on, for example, allowing the defence industry more leeway, and a later decision to reintroduce certain divisions, opened up scope for speculation that the reform plans would now be scrapped or at least thoroughly revised. However, the advent of Sergei Shoigu at the Ministry of Defence (MoD) could as easily be interpreted as a signal that military reform was entering a new phase, focused on getting the new organisation to work in practice, consolidating the newly introduced ways of thinking and doing things, and making them standard operating procedures.

Serdiukov was instrumental in quickly and at times ruthlessly implementing the radical reforms without much concern for how these were regarded among the officer corps. Shoigu represents a different leadership style altogether and is probably regarded by the Russian political leadership as someone who possesses the ability to soothe and consolidate both the Ministry and the Armed Forces after a turbulent and controversial period of reorganisation and upheaval of routines. Another task set out for Shoigu by Putin was to repair the ravaged relations between the Ministry and the defence industry.

This is not to suggest that there are no more challenges ahead. On the contrary, there are serious doubts as to whether Russia will be able to reach the goals set out. This chapter brings together the findings of the previous chapters and draws general conclusions about Russian military capability in a ten-year perspective. It starts by looking at the conceptual level, for example, at Russia's security policy and its view on future wars. The second section focuses on resources such as the military organisation, personnel, and weapons and equipment. The third section looks at capabilities that can increase or undermine overall military capability, such as command and control, readiness, mobility and logistics.

7.1 Security policy, the Military Doctrine and Russia's view on future wars

Russia's official doctrines and key policy speeches on national security since 2011 highlight a more acute sense of insecurity and vulnerability. This is probably a reaction to what the Russian leadership perceives as challenges internationally and at home.

Threat assessment

The rhetoric in 2012–2013 and the Foreign Policy Concept published in 2013 are more anti-American and the emphasis is very much on patriotism and on what is deemed to be Russian traditional values, with the Russian people and

language as focal points around which to unify. Russia appears to have chosen the path of 'strategic solitude'. Its nuclear arms and the reform of the Armed Forces are instrumental in providing the military power that Russia needs to secure its great-power status.

At the same time, Russia is well aware of the dangers of becoming isolated. There is increased focus on trade and Russia has also made efforts to tie other countries more closely to itself inside organisations that it controls or dominates, such as the Customs Union and the planned Eurasian Union as well as the Collective Security Treaty Organization (CSTO). In addition, Russia is seeking to cooperate more closely with countries that it perceives as having similar interests, for example, when it comes to security for the ruling regime.

The domestic political situation and the anti-regime demonstrations in 2011–2012 have furthermore played a significant role in Russia's choice of policy path. The spectre of domestic instability is used to justify an increasingly authoritarian policy at home and the mandates for the security services and the Interior Troops have been expanded. This will have consequences for which cooperation partners Russia will prioritise over the years to come and Russia will most probably continue to be extremely sensitive to anything amounting to criticism of its domestic politics and what it perceives as meddling in Russia's internal affairs. The Russian sense of vulnerability to information warfare with the intention of upsetting Russian domestic stability will complicate cooperation with the West.

NATO expansion and NATO's missile defence in Europe will remain military dangers in Russia's threat perception in the near future. Not least the sense of being technologically inferior is a factor behind Russia's sense of insecurity in this respect. Strategic deterrence and especially nuclear deterrence will remain at the heart of Russian strategic thinking. From Russia's viewpoint, the later phases of NATO's missile defence in particular could undermine Russia's second-strike capability. Maintaining 'global strategic stability' is one of the main roles for nuclear weapons in Russia's National Security Strategy, and the Military Doctrine emphasises the role of strategic deterrence in peacetime.

In addition, Russia's Armed Forces must be able to handle both regional and local wars on Russia's borders as well as the threats posed by terrorism and radicalism. Russia is likely to continue to perceive military dangers in all its strategic directions. The implication of this is that Russia will remain unlikely to deploy all of its units to one conflict. To do so would make it vulnerable to attacks in other strategic directions and there is every reason to assume that, apart from Belarus, Russia will not have any military allies to count on. In the CSTO, Russia will continue to carry the main military burden.

Military strategy

It is clear from the Military Doctrine that new challenges will make it imperative for Russia to introduce new thinking on warfare. The Military Doctrine mentions how military and non-military means are used in tandem in today's conflicts, but it also highlights the importance of new technology.

Again, there is a Russian sense of insecurity that stems from its lagging behind in a number of important technology fields, such as command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR), and the use of drones and precision weapons. Russian military theorists have long debated how to meet the challenge of stand-off warfare. It is therefore natural that there is much emphasis on developing new military technology. However, the need to introduce new technology is not only prompted by the Russian fear of lagging behind the West. The demographic realities and the difficulties in attracting young men to the Armed Forces also stresses the importance for Russia to rethink its military strategy. With fewer soldiers Russia will have to adapt its military thinking and warfare.

The exact contours of Russian military strategy are still only taking shape, but the realities of international technological development and a dwindling supply of soldiers are determining factors.

7.2 Organisation, personnel, weapons and equipment

The reform of the Armed Forces aims at creating a modern, well-equipped military force by 2020. A fundamental restructuring of Russia's Armed Forces took place between 2009 and 2011. Further fine-tuning of the organisation will probably take place. For example, new threats as well as new technology could be a reason for creating cyber security forces as a new arm of service (*RIA Novosti* 2013b), and economic constraints as well as difficulties in recruiting soldiers, non-commissioned officers (NCOs) and officers could lead to a smaller standing organisation than the stipulated figure of 1 million men. On the whole, however, the overall new organisation is likely to remain in place.

Defence spending

Defence spending is the most general single indicator of the resources provided to the military and increasing spending creates opportunities to strengthen military capability. The effort to strengthen Russia's military has been accompanied by sizeable increases in defence spending. The defence budget is set to rise to around 3.1–3.8 per cent of gross domestic product (GDP) during the budget period 2013–2015. In 2012 the Russian defence budget was 2.9 per cent of GDP and in 2013 it is expected to be 3.1 per cent. Although spending is rising it is lower than what was anticipated in the federal budgets presented earlier. Nevertheless, in 2012, total military expenditure reached 4.4 per cent of GDP according to estimates by the Stockholm International Peace Research Institute (SIPRI). In other words, Russia is on par with the USA regarding the relative size of the defence sector in the economy as a whole.

Over the coming ten years, the main determinant for defence spending will be the growth of GDP. During the 2000s, when growth rates were exceptionally high, average real growth of the defence budget has been estimated at 6 per cent per year. However, the present prospects for economic growth look gloomy – around 2 or 3, or at a maximum 4 per cent per year – and it follows that defence spending will grow more slowly than previously.

The political leadership shows commitment to the reform of the Armed Forces, but other political goals such as meeting social obligations and maintaining a fiscal balance are likewise important. Russian observers doubt that the defence budget share will rise over 4 per cent of GDP and our assessment is a GDP share of between 3.5 and 4 per cent. As long as growth does not pick up, real defence spending will grow at a moderate rate.

Personnel

Personnel will continue to be a key issue for the Armed Forces. Russia maintains its goal of 1 million men in the Armed Forces even though many experts doubt whether this is plausible and mention considerably lower figures as realistic – some as low as 500 000–600 000 (Golts 2010: 57–58) and the most realistic estimate as to how many men were serving in 2013 was probably around 700 000 (see Chapter 2). There are, however, reasons why Russia will be slow in adjusting its 1 million ambition downwards, even though the Ministry of Defence has admitted that it is short of about 30 per cent personnel in the Armed Forces. First, the figure of 1 million men has a strong symbolic function for Russia's self-image as a great power. Second, the Ministry of Defence is probably worried that a smaller nominal force could lead to funding being slashed with time, and the same mechanism works down through the organisations. No arm of the Armed Forces will be willing to adjust its nominal personnel figures downwards for fear of losing out in the budget battle.[29]

The 2017 personnel plan will probably not be fulfilled, due to difficulties in attracting and keeping contract-employed soldiers and the slow pace at which NCOs are being introduced. Russia has thus had problems in recruiting enough contract soldiers for the permanent-readiness organisation. The demographic situation – with 10 million fewer people of working age during the coming ten years – is reducing the cohorts of men eligible for conscription and also creating a tight labour market where the Armed Forces will have to compete to fill the ranks of contract-employed soldiers. And the challenge is not only to attract enough young men in simple terms of numbers. The Armed Forces will need to recruit a share of the talented and the able to become soldiers, NCOs and officers.

During the period 2013–2023, the number of men turning 18 will be between 660 000 to 774 000 a year, with rather large variations between the years (Rosstat 2013). A considerable proportion of these 18-year-olds cannot be drafted, among other reasons because of poor health. The problems with recruitment and drafting will probably continue in many of the units of the Ground Forces. Russia will continue to have a mixed manning system, which gives the Armed Forces a lower level of readiness and capability than the reform may have intended. A working mobilisation system will also be important in order to address the manning problem. Such a system is likely to take shape during the coming ten years (see section 7.3.1 below on the future readiness of the Armed Forces).

[29] The RUFS Programme is grateful to Julian Cooper for pointing out this driving force behind the nominal number of men given for the Armed Forces.

Weapons and equipment

Compared to previous armament plans, the first two years of the State Armament Programme up to 2020 (GPV-2020) seem to have got off to a more promising start. The procurement and contracting processes have been supported by a regulatory framework and a quest for more effective procedures. The share of concluded contracts in summer 2013 relative to the reserved 2013 budget for procurement and acquisition does not show improvements compared to the last two years. In absolute terms, however, the volume of contracts has increased compared with 2012 (*RIA Novosti* 2013c).

However, the defence industry still has efficiency problems. As further sharp increases of the State Defence Order (GOZ) volumes are planned for the next few years, the challenges to the defence industry in meeting production targets will grow as well. In spring 2013, some budget expenditures on defence materiel planned for 2014–2016 were transferred to 2017–2018, at least partly due to the defence industry not being prepared to deliver (Markelov 2013). The problems in the procurement system and the backwardness of 80 per cent of the defence industry have thus delayed elements of the rearmament through the GPV-2020. The MoD has therefore not been able to absorb the amount of funds allocated at the pace foreseen at the beginning of the reform. The problems facing defence research and development (R&D) will furthermore have an adverse effect on military capability in qualitative terms, and when it comes to the ability to supply the Armed Forces with highly skilled specialists. This notwithstanding, the weapons and equipment of the Russian military will become increasingly modern, as is evident from the planned procurement, deliveries and R&D for the different arms and branches of the Armed Forces.

The Ground Forces

The brigade-based structure set up in 2009–2011 seems set to remain. Ground Forces Commander Col-Gen. Vladimir Chirkin said in July 2012 that the current ninety-plus brigade structure of the Ground Forces should be expanded with another twenty-six brigades, with an emphasis on mobility and situational awareness rather than adding more manoeuvre units. Each of the ten Combined Arms Armies would get a reconnaissance brigade and a helicopter brigade, with one helicopter brigade also being added to each Military District (MD). In addition, two more surface-to-air missile brigades were to be set up (*RIA Novosti* 2012). Few details about dates and about the manning of these additional units have been released.

There seem to be two principles for the Ground Forces' development. First, no single manoeuvre brigade structure would fit all potential theatres of conflict. Second, the multitude of armaments systems with overlapping functions is old, cumbersome and costly and must be simplified. Since the Armed Forces reform started in 2009 there has been talk about heavy (i.e. based on tanks), medium-heavy – i.e. based on tracked armoured infantry fighting vehicles (AIFVs) and wheeled armoured personnel carriers (APCs) – and light brigades (based on armoured cars) (McDermott 2013a: 73; Tikhonov 2012). There may be a gradual transition to this three-tier structure based on standardised single platforms for each type of brigade with possibilities for modular development, i.e. fitting different types of equipment onto the same vehicle chassis: the tank

Armata, the tracked AIFV Kurganets-25 and the wheeled APC Boomerang. This is more likely to begin to happen in the second than in the first half of the coming decade.

There is likely to be an emphasis on wheeled vehicles rather than tracked since strategic mobility of vehicles trumps tactical and terrain mobility. Finalising the development, testing, ordering, producing, delivering and starting training on these new platforms are likely to take much of the coming decade, even if everything goes according to plan and the money does not dry up. Today's old equipment (i.e. Soviet-era equipment) will dominate the Ground Forces in the near future with its share remaining at around 20–30 per cent in 2020 (Ministry of Defence 2013).

The Air Force

The Air Force reorganisation in 2009–2010 reportedly cut the number of military airfields from some 245 to around thirty (Barabanov and Pukhov 2010: 64). Economies of scale in maintaining aircraft and generating Air Force units seemed to be taking priority over operational needs. The organisation with one major air base per MD with some five to ten subsidiary Air Groups spread out over the MD had two drawbacks. Fewer and bigger bases are more vulnerable than several smaller air bases. Second, concentrating assets in fewer locations means leaving more areas with insufficient air cover over Russia's huge territory.

In 2013, there were signs that operational needs were being increasingly prioritised. Shoigu noted in July 2013 that the Air Force should return to the principle of one air regiment per airfield (VPK 2013a), indicating as well that more airfields will be used. How fast and to what extent this will happen remains unclear. All but four Army Aviation brigades will probably be reorganised into regiments (Pinchuk 2013). It seems that the number of active military airfields will grow and reorganisation will continue.

According to the chief of the Air Force, the Air Force was to receive 212 new aircraft in 2013, up from 176 new in 2012. All in all, Russia would receive more than 1 000 helicopters and 850 military aircraft up to 2020 (Pinchuk 2013). Another expert estimate is that Russia could have some 1 000 modern military aircraft in 2020, albeit with a lag in modernisation of armaments for the new aircraft (Barabanov and Frolov 2012). Although these aims may not all be met in full, it is clear that the ambitious modernisation effort continues. At least the helicopter industry has overall proved able to deliver according to plan and should be able to continue to do so up to 2018, when the helicopters in the GPV-2020 are set to be delivered.

The defence industry's capability will be the key limiting factor. New and modernised aircraft will exist in parallel to old ones, which will account for close to 30 per cent of the fleet in 2020 according to the MoD (Ministry of Defence 2013). When it comes to the production targets for fixed-wing aircraft, it remains to be seen how attainable they are. For the Su-34 attack aircraft and the Su-35S fighter aircraft, serial production has only started; but the plans do not appear unrealistic. Serial production has not started for the T-50 (PAK), Su-

30SM and the MiG-29K and these targets are therefore more difficult to assess. The same is true for the military transport aircraft Il-476/Il76MD-90A. Overall, Russia's long-term goal is to become less dependent on foreign manufacturers (e.g. Ukraine) when it comes to procuring military transport aircraft.

The Navy

The naval organisation will probably remain more or less the same as at present. In 2013, naval capability was affected by the low levels of funding for maintenance, refurbishment and acquisition in the years after the fall of the Soviet Union. During the next ten-year period a large portion of the naval fleet will be on the verge of being decommissioned (Carlsson 2012: 4). Future naval capability therefore depends on the ability of the Russian defence industry to supply the Navy with new ships.

In 2012–2013 it was clear that the naval branch of the defence industry was lagging behind seriously. Although there were promises that the backlog was to be eliminated in the coming few years, the shipbuilding industry is experiencing persistent troubles in delivering both submarines and surface ships. The problems are compounded by difficulties in trying out complex naval systems. Not least trials with the new submarines of the Borei and Yasen classes have suffered from technical problems and ensuing delays. The Navy will struggle to keep its capability since it is uncertain whether the shipbuilding industry will be able to deliver new surface vessels before many of the current vessels are decommissioned.

The Airborne Forces

It is unlikely that all of the Airborne Forces will be used simultaneously for surprise high-pace airborne operations in enemy rear areas, which is the classical remit of the Airborne Forces. There are additional tasks that the flexible and relatively well-trained Airborne Forces can undertake. First, they are closely related to Russia's evolving Special Operations Forces. Second, they are likely to be used as a crisis management tool (e.g. within the CSTO) and other peace operations. Third, units from the Airborne Forces will be used as line infantry when needs arise, as happened in Georgia in 2008.

Col-Gen. Vladimir Shamanov claimed in 2013 that each regiment would get a company of helicopters (VPK 2013b). New armoured vehicles are being introduced, but at a slow rate. Recruitment is likely to remain a challenge and the Airborne Forces, and the Armed Forces as a whole, will probably continue to depend on conscripts to a great extent.

The Aerospace Defence Forces

The new Aerospace Defence Forces command is to be established by 2016. There is, however, little information on how this is progressing. The Aerospace Defence Forces so far lack a nationwide unified command and an automated command and control system on the strategic level. Russia lags behind in the development of support systems in the areas of communications systems, intelligence and information systems, which, among other things, affects the Aerospace Defence Forces' ability to warn Russia's political and military leadership of a missile attack (Barvienko and Anoshko 2013). These are complex issues to overcome and the question is whether this can be done by 2016 or even by 2023. The

Russian intention is probably in the longer-term perspective to create Aerospace Defence Forces which covers not only the Moscow region but all strategically important areas in Russia.

The development of the Aerospace Defence Forces' capability also depends on the defence industry's ability to deliver the S-400 and S-500 systems. Almaz-Antei will probably be able to deliver around forty S-400 battalions in the next ten years. The first deliveries of the S-500 are planned for 2015, but problems with bottlenecks could occur if there are delays in increasing industrial capacity.

Stand-off warfare

Russia seems set to develop its stand-off warfare capability in the next ten years. This can be seen in the procurement of weapon systems with a range of over 300 kilometres for the Navy and the Air Force as well as for the Ground Forces.

The conventional stand-off warfare capability of the Russian Navy may increase as the current cruise missile force is complemented by submarine-launched cruise missiles (SLCMs) on the new Yasen class nuclear-powered multi-purpose attack submarine. The Navy's sub-strategic nuclear capability may, however, diminish. If the SS-N-19 medium-range air-to-surface missile system is retired and replaced by an exclusively conventional missile system, which Kristensen and Norris hold probable (2013: 78), the number of sub-strategic nuclear warheads will decrease. The new 2 500 kilometre-range missile SS-N-27 is reportedly nuclear-capable, albeit with reduced range (Isby 2012), but the arrival of the Yasen class submarines may only marginally affect the overall number of warheads carried. Probably, they will not receive more nuclear warheads than the current attack submarines they are intended to replace. If more submarines are taken out of service than new are procured, the number of operationally deployed warheads will obviously fall.

The present slow production rate of the Iskander short to medium range ballistic missile system may dampen the planned increase in medium-range stand-off weapons within the Ground Forces. If the cruise missile version of the system, the Iskander-K, which has long been under development, is procured, the number of missiles could potentially increase as Iskander-K launchers may carry four to six cruise missiles each (Forss 2012: 16). In 2013, no such orders were known of. It has been proposed (Forss: 15–16) that the ballistic and the cruise missile for the Iskander could achieve, or may already have, ranges of over 700 and 2 000 kilometres respectively. Russia would, however, not be able to deploy ground-launched missiles with such ranges without violating or leaving the Intermediate Nuclear Forces (INF) Treaty. The deployment of the Iskander in place of the older Tochka missile system will nevertheless increase the number of operationally assigned warheads for conventional and sub-strategic nuclear stand-off warfare, as the Tochka has a range of only 120 kilometres.

The Air Force will probably increase its capability for long-range conventional strikes in the next ten years. The modernisation of the strategic bombers will probably continue, allowing more aircraft to carry the Kh-101 and the Kh-555 air-launched cruise missiles (ALCMs). These missiles will probably continue to be

procured, increasing the stockpile. The future medium-range missile capability is more uncertain. The aged Tu-22M3 long-range bombers are expected to be replaced by Su-34 attack aircraft, but this aircraft still lacked a weapon such as these ALCMs in 2013. The medium-range ALCM, designated the Kh-SD, is reportedly under development (Gordon 2009: 168), but it is uncertain if it will be procured in significant numbers in the years up to 2023.

The Nuclear Forces

The Russian Armed Forces will maintain sufficient sub-strategic nuclear warfare capabilities in all strategic directions in a ten-year perspective. Russia will furthermore be able to maintain a substantial operational strategic nuclear weapons force.

The organisation of the Strategic Nuclear Forces in a triad will probably remain during the next ten-year period and beyond. The Strategic Missile Forces will remain the backbone of the Russian strategic nuclear force, due to their high state of readiness and reliable command and control system, but are set to be reduced in size over the next ten years. According to Kristensen and Norris (2013: 74), the current twelve missile divisions will shrink to seven: three silo divisions and four mobile. The share of deployed warheads may, therefore, become more evenly distributed within the triad as the number of warheads on submarines increases.

Two legs of the triad will be extensively modernised, but the bomber force only to a small degree. The overall number of launchers will shrink, but the number of deployed warheads will more or less remain the same. Russia will continue to have a large nuclear arsenal, comprising both strategic and sub-strategic nuclear weapon systems. The Russian nuclear warhead industry is in good shape and is capable of maintaining the strategic and sub-strategic nuclear arsenal through designing new and remanufacturing older warheads (Podvig 2012: 63; Stukalin 2012: 7).

According to the former commander of the Strategic Missile Forces Viktor Yesin (2012: 242–243) there are four main development trends for the Strategic Nuclear Forces in the period up to 2020. First, new multiple-warhead ballistic missiles will be produced and deployed alongside modernisation of existing strategic bombers so that 80–90 per cent of the weaponry will be modern. Second, the service life of some older ballistic missiles will be extended, in order to preserve nuclear strike capability until new missiles are deployed in sufficient numbers. Third, new, enhanced ballistic missile warheads and ballistic missile defence countermeasures will be developed. Yesin mentions manoeuvring and gliding flight re-entry vehicles. Finally, the reliability and efficiency of the Strategic Nuclear Forces' command and control system will be improved. It can be noted that none of these four development trends are new. They have been visible and vital parts of Russian strategic nuclear development for several years, if not decades.

During the next ten years, the intercontinental ballistic missile (ICBM) force will undergo significant change. All of the older missiles are planned to be

retired from service. In their place, multi-warhead ICBMs will be deployed, significantly increasing the share of mobile ICBM warheads (Kristensen and Norris 2013: 73–74). The proportion of those in the total stock of ICBM warheads may increase to approximately 70 per cent by 2022. Kristensen and Norris (ibid.) hold it likely that the ICBM force will shrink by almost a third to some 220 missiles towards 2023, as deployment of new ICBMs will not match the retirement of old missiles. With four warheads on each new missile, the ICBM force can be calculated as amounting to at least 600 warheads. The nuclear weapons expert Pavel Podvig (2012: 60) estimates that the ICBM force can be kept at the level of 1 000 warheads at least through to the mid-2020s.

All the old nuclear-powered ballistic missile submarines (SSBNs) are scheduled to be replaced by eight Borei class submarines towards 2023. The first entered service in 2013 and two more are expected to become operational within three years. The subsequent five submarines will be of the improved Borei II class, expected to become operative towards 2020 according to Kristensen and Norris (2013: 75). The production of new SSBNs and the necessary volume of Bulava missiles may delay the entry into service. Nevertheless, five operational Borei class submarines carrying eighty Bulava missiles and 480 warheads would constitute a stronger force than the 448 warheads estimated to be deployed in March 2013.

The strategic bomber fleet is not expected to change significantly in the years up to 2023. Modernisation of the air frames will continue, but we consider it unlikely that Russia will be able to deploy more bombers in 2023 than the sixty estimated to be operational in 2013. The next-generation strategic bomber, known as the PAK-DA, will enter service in the mid-2020s at the earliest, according to Yesin (2012: 246). It will therefore not have any impact on capability by 2023.

The sub-strategic nuclear weapon arsenal will probably shrink in a ten-year perspective, but the delivery vehicles will be more modern and reliable and have a greater range (see above on stand-off warfare capability). Therefore, Russia will most likely maintain a significant arsenal of operationally assigned sub-strategic nuclear weapons in all four strategic directions.

7.3 Readiness, command and control, logistics and mobility

The resources described above will form the basis for developing new capabilities and increase readiness. Among the key components for increasing Russia's military capability for force projection and sustainability of operations will be the readiness of its forces; the development of command and control in terms both of the introduction of new technology and the development of the personnel's skills and know-how; achieving a robust and fine-tuned Logistics and Rear Service that has the ability to provide for basic needs as well as special requirements in operations; and, finally, increasing the ability to move troops and weapons and equipment over vast distances.

Readiness

As long as Russia keeps the nominal manning of its Armed Forces at 1 million men, it seems unlikely that it will achieve its ambitious goal of all units being in a state of permanent readiness. The Armed Forces will simply not be able to recruit enough soldiers and NCOs to maintain a high level of readiness. A significant number of conscripts will always be beginning training. Russia will, in other words, face a choice between maintaining a nominal 1-million force with lower manning levels or a smaller force with higher readiness. The mid-way solution will be to maintain the *de facto* two-tier standing organisation of today with a nucleus of high-level readiness units and a second tier of units that will take a few weeks to get fully manned and equipped.

This will be supplemented with a third tier of mobilisation units. In a protracted regional war, Russia's 'New Look' military organisation can be seen as a first response, and a reserve organisation as a second. Mobilisation of reserves has been a small but recurring element of annual strategic exercises, indicating continued development work in parallel to building the permanent-readiness organisation. How the reserve forces will actually work is unclear. Although there is plenty of Soviet-era hardware for the Ground Forces' reserve units, manning principles still appear to be under consideration. Another question is how active the reserves will be. Without regular refresher training, such units could need months to get combat-ready. Nevertheless, reserve units staffed with key personnel and with demobilised reserves attached to them may well become a reality in the coming decade. This would indicate that preparations are being made not only for local and regional wars, but also for conflicts where the endurance of the permanent-readiness organisation is not adequate.

Command and control

In 2010, Russia abandoned the complicated command and control structure whereby the commands of the branches and arms of the Armed Forces were in charge of both operations and capacity building (training etc.). Operations are now instead commanded by four regional Joint Strategic Commands (JSCs) each responsible for a strategic direction.

The new structure, current trends, exercise patterns and official statements display a will to increase the ability to conduct joint inter-service (and even inter-agency) operations. This is difficult to achieve (interviews in Moscow, June 2013), but development continues through experiments and exercises. The ability to conduct joint operations is therefore expected to improve in the coming decade, especially if large-scale exercises are continued to be held on regular basis.

It is evident that one of the key tasks ahead is to introduce new C4ISR systems. The Kavkaz-2012 exercise was mainly a staff exercise designed to improve command and control, to test the new automated systems on brigade level. As mentioned above, Russia is lagging behind when it comes to developing communications systems, intelligence and information systems. Kavkaz-2012 was a case in point since it was evident that there were severe difficulties in employing the new command and control system at brigade level. There is little information about whether this was due to poor technology or whether more training and exercises will rectify the problems experienced in 2012.

Key issues for air operations – such as coordination with air defence units, the quality and reach of situational awareness (including within the Commonwealth of Independent States (CIS) Air Defence cooperation), command and control, and use of high-precision armaments – are being addressed. This capability is expected to improve in the coming decade. It has not, however, been possible to make a detailed assessment within the framework of this study.

The Logistics and Rear Service

In the near future, the Armed Forces will continue to have problems with their Logistics and Rear Service, but within a ten-year period most the problems, which stemmed from outsourcing parts of their functions to private contractors, will probably have been dealt with. As a result the Armed Forces should prove able to cater better for their own needs during exercises and in time of war. This will in turn improve the Armed Forces' ability to sustain forces in the theatre of operations and hence improve their military capability. The end goal is probably to create a more flexible and fine-tuned Logistics and Rear Service, which has the capacity to respond to specific needs in specific operations; achieving this will, however, be a challenge even in a ten-year perspective.

Mobility

Russia's vast territory makes strategic mobility one of the key capabilities for the Armed Forces to develop. For providing strategic mobility – transporting troops, equipment and supplies over long distances – the railways will continue to be the most important component. Air, river and road transport will play supporting or specific roles in operations. The state company Russian Railways will thus continue to provide the basic infrastructure for military transport and the Railway Troops will enable mobilisation and transport as well as providing the capability to build and repair railways, protect infrastructure and de-mine. The Railway Troops were not downsized in the restructuring that took place from 2009 and will probably continue to number 24 000–28 000 men over the next ten years. Transporting troops by railway will furthermore be an integral part in exercises, as was the case in 2013.

When it comes to air transport, one of the aims in the near future is to strengthen air refuelling capacity. The tanker fleet (of Il-78s) is planned to grow from twenty today to some fifty in 2020 (Barabanov and Frolov 2012; Kramnik 2013). This may still only satisfy the needs of the Military Transport Aviation and the Strategic Bomber Aviation, while container solutions may be used for tactical aviation (Kramnik 2013), perhaps based on civilian commercial aircraft such as the Il-96 (Oruzhie Rossii 2013). Russia has around 100 heavy transport aircraft, which are important for airborne operations. The plan is to have some 170 by 2020 (IISS 2013: 230; Barabanov and Frolov 2012).

The Airborne Forces will probably be the first to be transported to a conflict area. Even with all known plans for the procurement of new heavy transport aircraft, the Military Transport Aviation will in a ten-year perspective only be able, in theory, to transport by air and land up to two airborne divisions in one round. Another possible use of the Airborne Forces is to parachute-drop combat units. This could be made with an equivalent of up to one airborne division in one round.

Within the Ground Forces, standardised brigades created in the reform process have proved to be too heavy for rapid deployment and thereby to limit the strategic mobility of the Armed Forces, according to experts (McDermott 2013a: 32). If the brigades are converted into three versions – light (lightly armed), medium or multi-role (wheeled) and heavy (tracked) – with good results by 2015 this will contribute to improved military capability in the years up to 2023. Relatively low mobility is, however, also a result of the turmoil during the reform and difficulties in manning, instilling discipline and developing an NCO cadre (McDermott 2013a: 62).

Abroad, Russia's air assets in Armenia, Kyrgyzstan and Tajikistan strengthen its initial air capability in these areas. Russia is today likely to be able to deploy aircraft to Belarus, giving further reach to the West. There are plans to locate a Russian base in Belarus in 2015 (Gavrilov 2013).

7.4 Conclusion

There is a strong Russian political commitment to increasing the country's military security. Judging from official security policy documents as well as statements emanating from key decision makers, Russia sees the world as increasingly insecure and this is likely to be the dominant view in the next couple of years and will probably inform security policy making in a longer-term perspective as well. Russia continues to prepare for a relatively large number of military tasks in all strategic directions. There is no evidence that Russia intends to make the lists of military threats shorter in the near future. Strategic deterrence and sub-strategic nuclear arms will continue to play an important role in Russian security policy thinking as this will be the insurance of last resort for the country's military security. In other words, nuclear arms will continue to be given high priority.

Russia's commitment to military security is also visible in the increase in military expenditure that is scheduled for the next couple of years. The defence budget will grow in terms of share of GDP and in a short-term perspective this will be the case partly because GDP growth will be sluggish. In a ten-year perspective, however, Russia's leadership could find it more difficult to strike the right balance between defence spending and other sectors of the economy.

Russia's defence industry will not become an engine of future economic growth. The 'soft budget constraints' and the political risks involved in shutting down inefficient industries in the mono-cities will mean that the Russian government continues to pour money into unproductive companies. Although some sectors of the defence industry are performing well, Russia will continue to lag behind in important technology areas in a ten-year perspective. This will have serious implications for Russia's ability to adopt new concepts of warfare that rely on new technology – for example technology for C4ISR and high-precision weapons.

Nevertheless, Russian conventional capability has increased and will continue to do so. Increased spending on defence and especially on procurement will mean that units are better trained and better equipped. Russia's military reform appears to be sailing into calmer waters with Sergei Shoigu at the helm. After a couple of years of upheaval, restructuring, downsizing and the introduction of new concepts the time has come for the Ministry of Defence to make sure that the reform measures are put into practice. This will involve changing the curricula for military education and training, holding exercises and fine-tuning the organisation. In a short-term perspective, Russia looks unlikely to change its nominal goal of 1 million men under arms. However, in a long-term perspective demographic and economic realities will probably force the MoD to revisit its personnel plans. In addition, McDermott has argued that the defence planning process inside the MoD is grappling with a number of weaknesses, among them excessive secrecy and an almost complete absence of both useful defence statistics and operational analysis. The very method of going ahead with the reform is one of trial and error (McDermott 2013b; Herspring 2013: 309–311).

In spite of the many challenges that remain, Russia will gradually increase its military capability in terms of readiness level, force projection and sustainability as well as developing command and control as new technology, weapons and equipment are procured and the personnel receive training.

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Russian conventional capability has increased and will continue to do so during the coming ten-year period. Increased spending on defence and especially on procurement will mean that units are better trained and better equipped.

Russia's military reform appeared to enter a calmer phase after a couple of years of upheaval, restructuring, downsizing and the introduction of new concepts. During the next few years the curricula for military education and training will undergo further change, exercises will include new elements and more fine-tuning of the organisation will take place.

In a short-term perspective, Russia will probably not change its nominal goal of 1 million men in the Armed Forces. In a ten-year perspective, however, demographic and economic realities will probably force the MoD to revise its personnel plans downwards.

The future defence budget's share of GDP will probably be between 3.5 and 4 per cent and there is currently a political will to keep it at this level. Many defence industry companies are, however, inefficient and will continue to have problems in spite of this when it comes to delivering the modern weapons that the Armed Forces are demanding. Russia will nevertheless gradually increase its military capability in terms of readiness level, force projection and sustainability. Russia will also continue to develop command and control and gradually procure more modern weapons and equipment.

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