



UKRAINE AND BLACK SEA SECURITY

SIEMON T. WEZEMAN AND ALEXANDRA KUIMOVA*

The security environment in the wider Black Sea region—which brings together the six littoral states (Bulgaria, Georgia, Romania, Russia, Turkey and Ukraine) and a hinterland including the South Caucasus and Moldova—is rapidly changing. It combines protracted conflicts with a significant conventional military build-up that intensified after the events of 2014: Russia's takeover of Crimea and the start of the internationalized civil war in eastern Ukraine.¹ Transnational connections between conflicts across the region and between the Black Sea and the Middle East add further dimensions of insecurity. As a result, there is a blurring of the conditions of peace, crisis and conflict in the region. This has led to an unpredictable and potentially high-risk environment in which military forces with advanced weapons, including nuclear-capable systems, are increasingly active in close proximity to each other.

In this context, there is an urgent need to develop a clearer understanding of the security dynamics and challenges facing the wider Black Sea region, and to explore opportunities for dialogue between the key regional security actors. This background paper on Ukraine is part of the Black Sea Regional Security Initiative, a project launched by SIPRI in 2017 to provide independent data and analysis on security developments in the region and to promote transparency around military issues.² This paper continues by describing Ukraine's situation on the Black Sea (section I), it then outlines recent trends in Ukraine's defence policy, including an overview of Ukraine's national documents (section II), the structure (section III) and deployment (section IV) of its armed forces, its military spending (section V), and its arms holdings and acquisitions (section VI), with a specific focus on their relations with

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¹ Russia gained control over Crimea in Mar. 2014 after a referendum in Crimea favoured secession from Ukraine to join Russia. Russia and a few other countries claim this to be a legal accession. However, Ukraine and most other countries call the referendum and accession to Russia an illegal annexation of Ukrainian territory. This paper uses the term 'takeover' to mark only the factual change of control of Crimea.

² As well as background papers mapping the developments in each of the 6 Black Sea littoral states, the project will publish a paper covering the various conflicts in the region: Klimenko, E., 'Protracted armed conflicts in the post-Soviet space and their impact on Black Sea security', SIPRI Insights on Peace and Security no. 2018/8, Dec. 2018, and a longer paper on the challenges in the region: Melvin, N. J., *Rebuilding Collective Security in the Black Sea Region*, SIPRI Policy Paper no. 50 (SIPRI: Stockholm, Dec. 2018). The Swedish Ministry for Foreign Affairs provided funding for the project.

SUMMARY

● The Black Sea region is experiencing a changing military balance. The six littoral states (Bulgaria, Georgia, Romania, Russia, Turkey and Ukraine) intensified their efforts to build up their military potential after Russia's takeover of Crimea and the start of the internationalized civil war in eastern Ukraine in 2014.

The loss of Crimea and the conflict in the east of the country have dramatically changed Ukraine's relations with Russia and its position in the Black Sea. The civil war has become by far the most important security issue for Ukraine and Russia has become the main threat to its security. These events have also caused Ukraine to prioritize membership of the North Atlantic Treaty Organization.



Figure 1. Map of Ukraine

Credit: Ahlenius, H., Nordpil, 2018.

Black Sea security. Conclusions (section VII) summarize Ukraine’s position on Black Sea issues.

I. Background

Ukraine became independent in 1991 as the Soviet Union disintegrated. Its relations with its neighbours have been generally good, with one major exception. Russian–Ukrainian relations have been marked by swings between being close and friendly at one extreme and tense and hostile at the other.

While Ukraine had seen economic and political relations with Russia as important, it has also sought connections with the European Union (EU) and the North Atlantic Treaty Organization (NATO) and pursued a policy that put Ukraine on the road to full EU and NATO membership. Ukraine



signed a Partnership and Cooperation Agreement (PCA) with the EU in 1998 followed in 2014 by an Association Agreement.³ Relations with NATO are also strong: Ukraine became a member of NATO's Partnership for Peace programme in 1994 and in 2017 formally asked to become a NATO member.⁴

When Russian–Ukrainian tensions have risen, there have been three main underlying factors: (a) the price that Russia has demanded for deliveries of gas; (b) Ukraine's moves towards becoming part of the EU and NATO; and (c) the status of Russia's naval bases in Crimea, which Russia continued to use even after the break-up of the Soviet Union. The relations were further complicated by the existence of a large Russian-speaking minority in eastern Ukraine and Crimea. Relations improved between 2010 and early 2014, as Ukrainian President Viktor Yanukovich steered a pro-Russian course. After Yanukovich was ousted in February 2014, relations took a sharp turn for the worse over Russian interference in Ukrainian politics and Russia's takeover of Crimea and active support of the rebels in eastern Ukraine. These tensions have continued under President Petro Poroshenko, who took office in June 2014 and has pursued a pro-EU and pro-NATO foreign policy.

Ukraine is situated in Eastern Europe, bordering two other Black Sea states, Romania to the south-west and Russia to the north-east, as well as Moldova, Hungary and Slovakia to the west and Belarus to the north (see figure 1). It also borders on Trans-Dniester, which has declared independence from Moldova. Within its internationally recognized borders, Donetsk and Luhansk in the Donbas region of eastern Ukraine have both declared independence from Ukraine. In the south it has a 1006-kilometre long coastline on the Black Sea, where it claims 12 nautical miles of territorial waters and a 200-nautical mile exclusive economic zone (EEZ), both of which border Romania and Russia (see table 1). Until 2014 Crimea's 750-km coastline meant that Ukraine's EEZ bordered with that of Turkey.⁵

II. Defence policy

In the years before 2014 Ukraine recognized many potential threats to its security, both direct and indirect, and saw many of these threats as growing. However, 2014 has been the defining point of Ukraine's current and future security policy. The loss of Crimea and the conflict in the east of the country have dramatically changed Ukraine's relations with Russia and its position in the Black Sea. The civil war has become by far the most important security issue for Ukraine, overshadowing all other security considerations for the moment. It has also driven Ukraine more towards NATO.

Since its independence in 1991, Ukraine has sought good relations and cooperation with NATO, joining the North Atlantic Cooperation Council

³ Partnership and Cooperation Agreement between the European Communities and their Member States, and Ukraine, signed 14 June 1994, entered into force 1 Mar. 1998, *Official Journal of the European Communities*, L49, 19 Feb. 1998; and Association Agreement between the European Union and its Member States, and Ukraine, signed 27 June 2014, entered into force 1 Sep. 2017, *Official Journal of the European Union*, L161, 29 May 2014.

⁴ NATO, 'Relations with Ukraine', 14 June 2018.

⁵ Oral, N., 'Summary of EEZ zones in the Black Sea', Commission on the Protection of the Black Sea Against Pollution, [n.d.]; Saunders, S. (ed.), *IHS Jane's Fighting Ships 2016–2017* (IHS: Coulsdon, 2016), p. 871; and ClimateChangePost, 'The Ukraine coast', [n.d.].

**Table 1.** Basic facts about Ukraine and the Black Sea

Area	600 000 km ²
Black Sea coastline ^a	1 006 km
Waters claimed in the Black Sea ^b	
Territorial waters	12 nautical miles (22 km)
Exclusive economic zone	200 nautical miles (370 km)
Neighbouring countries ^c	
Land borders ^c	Belarus, Hungary, Moldova, Poland, Romania, Russia, Slovakia
Maritime borders in the Black Sea ^d	Romania, Russia
Population (2018) ^a	42.2 million
GDP (2017)	
Total (current US\$)	\$109 billion
Per capita	\$2 583
Membership	
NATO	Not a member; ‘aspirant member’ since Mar. 2018
European Union	Not a member; association agreement signed in 2014, entered into force 1 Sep. 2016
Military spending (2017)	
Total (current US\$)	\$3 648 million
As a share of GDP	3.4%

GDP = gross domestic product; NATO = North Atlantic Treaty Organization.

^a These figures exclude the territory of Crimea now controlled by Russia but include areas in eastern Ukraine under rebel control. Crimea has an area of 26 100 km², a Black Sea coastline of 750 km and a population of 2.3 million. The areas in eastern Ukraine under rebel control have a population of c. 6.3 million.

^b No final demarcation of these maritime claims has been made.

^c Ukraine also borders the breakaway region of Trans-Dniester in Moldova.

^d Ukraine also claims a maritime border with the exclusive economic zone of Turkey in waters around Crimea now controlled by Russia.

Sources: International Monetary Fund, World Economic Outlook Database, Apr. 2018; SIPRI Military Expenditure Database, May 2018; Stanchev, H. et al., ‘Determination of the Black Sea area and coastline length using GIS methods and Landsat 7 satellite images’, *Geo-Eco-Marina*, no. 17 (2011); Russian Geographical Society, ‘Study of the Crimea coastal zone’, 21 Aug. 2014; and Oral, N., ‘Summary of EEZ zones in the Black Sea’, Commission on the Protection of the Black Sea Against Pollution, [n.d.].

in 1991 and the Partnership for Peace programme in 1994.⁶ In 1997 NATO and Ukraine signed a Charter on a Distinctive Partnership, spelling out cooperation between NATO and Ukraine, and in November 2002 they adopted a NATO–Ukraine Action Plan for closer cooperation and potential NATO membership.⁷ NATO membership became a clear goal in 2003 with the adoption by the Ukrainian Parliament of a law on the main principles of Ukraine’s national security policy that aimed at NATO membership. This was followed in 2005 by the start of an intensified dialogue between NATO and Ukraine and an agreement among NATO members in 2008 to accept Ukraine as a member in the future subject to certain conditions.⁸ The course was changed in 2010 when the newly elected President Yanukovich sought closer ties with Russia—he stated that partnership with NATO would continue but that NATO membership was no longer a goal.⁹ After Yanukovich’s fall from power in February 2014, the new government elected in late 2014—after the Russian takeover of Crimea and Russian support for rebels

⁶ NATO (note 4).

⁷ Charter on a Distinctive Partnership between the North Atlantic Treaty Organization and Ukraine, signed 9 July 1997; and NATO, ‘NATO–Ukraine Action Plan’, 22 Nov. 2002.

⁸ NATO, ‘Enlargement’, 11 July 2018.

⁹ *Kyiv Post*, ‘Ukraine’s Yanukovich: EU ties a “key priority”’, 1 Mar. 2010; and *Kyiv Post*, ‘Yanukovich: Ukraine currently not ready to join NATO’, 27 May 2010.



in eastern Ukraine—again made NATO membership a priority.¹⁰ This was formalized in December 2014 with the adoption of a law ending Ukraine’s non-aligned status and replacing it with the aim of joining NATO and the EU.¹¹ In June 2017 NATO membership became a high priority when the Ukrainian Parliament adopted a new law on foreign policy.¹² In July 2017 President Poroshenko started to seek negotiations of a Membership Action Plan, the most important formal procedure to become a NATO member, which he officially requested in February 2018.¹³ However, the process of becoming a member of NATO (or the EU) can be long and at least until 2016 Ukrainian public opinion on NATO has often been unfavourable—even in 2016, a survey in 24 Central and East European countries found that more Ukrainians saw NATO as a threat than a protection.¹⁴

In the meantime, NATO and Ukraine have cooperated in training, exercises and operations, and Ukraine has started to reform its armed forces and adapt its procedures and equipment to become NATO compatible (see below). Since 2014 the militaries of the United States and other NATO members have trained Ukrainian Army combat units at the Yavoriv Combat Training Centre at a rate of about 6–7 battalions (about 4000 soldiers) every year. The training has the double aim of making Ukrainian forces an effective military again and making them interoperable with NATO forces.¹⁵ The small Ukrainian Navy has taken part in NATO exercises in the Black Sea, and in July 2017 an operations centre to coordinate such exercises and potentially other joint naval operations became operational at the Ochakiv Naval Base near Odessa. This centre was built by US naval construction troops.¹⁶ The USA will also help to set up a facility for repair of small craft at the same base.¹⁷ The Ukrainian armed forces are also slowly implementing standards and procedures that will make them compatible with NATO forces. For example, Ukraine plans to change its main artillery systems from the 152-millimetre calibre inherited from Soviet times to 155-mm calibre, the NATO standard, and to introduce new rifles using NATO standard ammunition (see section VI).¹⁸ Ukraine’s arms industry, largely concentrated in the state-owned company UkrOboronProm, is in the process of ‘effective integration into [the] Euro-Atlantic community’ and ‘implementation of

Ukraine has started to reform its armed forces and adapt its procedures and equipment to become NATO compatible

¹⁰ Radio Free Europe/Radio Liberty, ‘New Ukraine coalition agreed, sets NATO as priority’, 21 Nov. 2014.

¹¹ Interfax-Ukraine, ‘Ukraine has no alternative to Euro-Atlantic integration: Poroshenko’, 23 Dec. 2014.

¹² NATO (note 4).

¹³ NATO officially added Ukraine to its list of countries seeking membership in Mar. 2018, but this only reflects the official Ukrainian request to start negotiations. Radio Free Europe/Radio Liberty, ‘Poroshenko: Ukraine seeking NATO Membership Action Plan’, 10 Mar. 2018.

¹⁴ Radio Free Europe/Radio Liberty, ‘Juncker says Ukraine not likely to join EU, NATO for 20–25 years’, 4 Mar. 2016; and Smith, M., ‘Most NATO members in Eastern Europe see it as protection’, Gallup, 10 Feb. 2017.

¹⁵ Watson, B., ‘In Ukraine, the US trains an army in the west to fight in the east’, Defense One, 5 Oct. 2017.

¹⁶ Gorka, A., ‘Canada becomes party to Ukraine’s conflict. Sells lethal weapons to Kiev regime’, Global Research, 18 Dec. 2017; and Wertheim, E., ‘World navies in review’, *Proceedings*, Mar. 2018, p. 70.

¹⁷ Wertheim (note 16).

¹⁸ Foss, C. F., ‘Ukraine seeks improved artillery capabilities’, *Jane’s International Defence Review*, 19 Feb. 2018.

Table 2. Ukrainian armed forces, selected years 1992–2017

	1992	2002	2007	2013	2014	2015	2016	2017
<i>Personnel</i>								
Active personnel	230 000	213 300	129 925	129 950	121 500	204 000	204 000	204 000
Army	150 000	150 700	70 753	70 750	69 500	153 000	153 000	153 000
Air Force	80 000	49 100	45 240	45 250	45 000	45 000	45 000	45 000
Navy	.. ^a	13 500	13 932	13 950	7 000	6 000	6 000	6 000
Reserves ^b	1 000 000	1 000 000	1 000 000	1 000 000	1 000 000	900 000	900 000	900 000
Paramilitary ^c	6 000	89 000	84 900	84 900	33 000	52 000	88 000	88 000
<i>Equipment</i>								
Tanks	6 480	3 905	2 984	1 248	2 145	2 138	2 093	2 111
Other armour	12 306	12 285	4 850	2 982	2 503	2 588	2 364	2 366
Artillery over 100 mm	3 368	4 417	4 063	2 670	2 782	2 570	2 445	2 535
Combat aircraft	1 370 ^a	510	221	231	203	202	125	125
Helicopters	693 ^a	943	292	292	205	216	122	121
Major warships ^d	.. ^a	3	2	2	1	1	1	1
Minor warships ^d	.. ^a	5	8	9	5	3	3	3

.. = no data available.

Notes: Definitions and available information may not be consistent for all years—changes may be partly due to differences in definition or available information. Not all equipment may be operational.

^a In 1992 naval personnel, warships and some aircraft were still part of the Black Sea Fleet under joint Russian and Ukrainian control and are not listed here.

^b The reserves figures include only those reserves who have done military service within the past 5 years.

^c Paramilitary forces include the internal security forces of the Ministry of Internal Affairs (from 2014 the National Guard) and the State Border Guard Service.

^d Major warships are combat ships of 1250 tonnes or more standard displacement; minor warships are combat ships of less than 1250 tonnes standard displacement.

Sources: International Institute for Strategic Studies, *The Military Balance*, various editions; Ukrainian Ministry of Defence; and media sources.

NATO standards' and has started to become involved in cooperation with industries in NATO countries and in NATO programmes.¹⁹

The Black Sea does not feature much in current Ukrainian security policy documents or efforts. Prior to 2014 Ukraine saw no key security threat in the Black Sea itself and the forces committed to maritime security were limited—among the Black Sea littoral states, only Georgia had fewer military capabilities in the Black Sea.²⁰ However, the 2012 national security strategy mentions the outstanding issue of the state borders in the Black Sea region and problems related to the deployment of the Russian Black Sea Fleet on Ukrainian territory.²¹

Since 2014 the conflict in eastern Ukraine has marginalized all Black Sea security issues. The national security strategy was updated in 2015 to focus on dealing with the occupation of Crimea and the conflict in eastern Ukraine. It names Russia as the main threat, which it sees as being 'of a long-term nature' but does not mention the Black Sea.²² The new military doctrine of

¹⁹ UkrOboronProm, 'UkrOboronProm in 2017: achievements', 28 Dec. 2017; and UkrOboronProm, '10 major UOP changes in 3.5 years', 21 Feb. 2018.

²⁰ Kuimova, A. and Wezeman, S. T., 'Georgia and Black Sea security', SIPRI Background Paper, Dec. 2018 (note 2).

²¹ Shelest, H., 'Defining national security of Ukraine', Research Institute for European and American Studies (RIEAS), 20 Apr. 2013.

²² National Security and Defence Council of Ukraine, [National security strategy of Ukraine], Presidential Decree no. 287/2015, 26 May 2015 (in Ukrainian).



September 2015 has a similar focus and adds a possible scenario of ‘full-scale armed aggression’ from Russia against Ukraine.²³ The Ministry of Defence’s white book, which describes the activities of the Ukrainian armed forces and defence policy almost every year, focuses on eastern Ukraine. The editions of 2015–18, each over 100 pages long, mention the Black Sea or navy only a handful of times, often just in a list of multinational exercises. On the other hand, they mention Donetsk and Luhansk dozens of times.²⁴ However, in mid-2018 the Sea of Azov, which is linked to the north-east of the Black Sea by the Kerch Strait, became a new area of dispute between Russia and Ukraine. Ukraine has deployed additional naval and coastal forces to the area.²⁵ As the dispute is over maritime boundaries and access, Ukrainian defence policy may devote more attention to naval capabilities in future.

III. Armed forces structure

Ukraine inherited a substantial part of the manpower and inventory of the large Soviet armed forces, as well as the Soviet doctrine and force structure: large forces relying on large numbers of heavy weapons and conscripted soldiers. However, starting soon after independence, the active and reserve personnel strength and the inventory of the armed forces were drastically reduced (see table 2). In the decade prior to 2014 Ukraine had embarked on a reform of its military doctrine and armed forces structure, emphasizing mobile operations by a small force made up of career personnel using advanced equipment.²⁶ The pace of change was slow, largely dictated by limited funding: although conscription was suspended in 2013, most of the weapons in use still dated from the Soviet period.

The events of 2014 thus caught Ukraine’s defence policy, doctrine and forces in a state of disarray and not ready to confront the rebels and their Russian military support.²⁷ The reality of the conflict in the east, the lack of funding despite a doubling of the military budget, and the lack of support from other countries forced Ukraine to fall back on the old doctrines and force structure: conscription was reintroduced in May 2014 to form again a mass armed force, using existing stocks of weapons and limiting operations to position warfare and limited slow mobile operations.²⁸ After 2014 the

The events of 2014 caught Ukraine’s defence policy, doctrine and forces in a state of disarray

²³ Ukrainian Ministry of Defence, ‘Petro Poroshenko approved a new edition of military doctrine of Ukraine’, 25 Sep. 2015; and Ukrainian Ministry of Defence, [Military Doctrine], Presidential Decree no. 555/2015, 24 Sep. 2015 (in Ukrainian).

²⁴ Ukrainian Ministry of Defence (MOD) and General Staff of the Ukrainian Armed Forces, *White Book 2015: The Armed Forces of Ukraine* (MOD: Kyiv, 2016); Ukrainian Ministry of Defence (MOD) and General Staff of the Ukrainian Armed Forces, *White Book 2016: The Armed Forces of Ukraine* (MOD: Kyiv, 2017); and Ukrainian Ministry of Defence (MOD) and General Staff of the Ukrainian Armed Forces, *White Book 2017: The Armed Forces of Ukraine* (MOD: Kyiv, 2018).

²⁵ Wilson, A., ‘Strait to war? Russia and Ukraine clash in the Sea of Azov’, European Council of Foreign Relations, 2 Oct. 2018; and Miller, C., ‘Sea of troubles: Azov emerging as “tinderbox” in Russia–Ukraine conflict’, Radio Free Europe/Radio Liberty, 7 Aug. 2018.

²⁶ Lavrov, A. and Nikolsky, A., ‘Neglect and rot: degradation of Ukraine’s military in the interim period’, eds C. Howard and R. Pukhov, *Brothers Armed: Military Aspects of the Crisis in Ukraine* (East View Press: Minneapolis, MN, 2014).

²⁷ Lavrov and Nikolsky (note 26).

²⁸ Sanders, D., ‘Ukraine’s military reform and the conflict in the east’, Defence-in-Depth, Defence Studies Department, King’s College London, 5 July 2017; Sanders, D., ‘“The war we want; the war that we get”: Ukraine’s military reform and the conflict in the east’, *Journal of Slavic Military Studies*,

Table 3. Ukrainian military expenditure, 2007–17

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^a
In national currency (current hryvnia m.)	20 685	25 341	26 899	29 596	29 358	33 058	35 061	47 943	79 010	87 510	96 691
Annual change (%)	37.2	22.5	6.1	10.0	-0.8	12.6	6.1	36.7	64.8	10.8	10.5
In US dollars (constant 2016 US\$ m.)	2 643	2 585	2 368	2 382	2 189	2 451	2 606	3 177	3 520	3 423	3 354
Annual real-terms change (%)	21.5	-2.2	-8.4	0.6	-8.1	12.0	6.3	21.9	10.8	-2.8	-2.0
As a share of GDP (%)	2.8	2.6	2.8	2.7	2.3	2.4	2.4	3.0	4.0	3.7	3.4
Per capita (current US\$)	88	104	75	81	81	91	97	90	81	77	83
As a share of total government spending (%)	6.5	5.6	6.1	5.6	4.9	4.8	5.0	6.7	9.2	9.0	7.8

GDP = gross domestic product.

^a Data for 2017 is for budgeted spending; for all other years data is actual spending.

Source: SIPRI Military Expenditure Database, May 2018.

number of active troops with the ground forces doubled. Emphasizing the focus on land operations in eastern Ukraine, the number of naval personnel halved as many of the minor warships and non-combat ships were taken out of service.

A career in the armed forces is not popular and neither is conscription. Because so many conscripts try to avoid military service, and succeed, an unpopular law on registration of males between the ages of 18 and 60 was adopted in April 2017.²⁹ Somewhat in contradiction to the unpopularity of conscription, many Ukrainians consider defence to be an important issue and a high proportion of Ukrainians (62 per cent) who responded in a 2015 survey of 64 countries said that they were willing to fight for their country.³⁰

IV. Armed forces deployment

The bulk of the Ukrainian armed forces are stationed in Ukraine, with a large part since 2014 deployed in or near the east for operations against rebel forces.

Ukraine contributed troops to United Nations peace operations for many years, but it has reduced the number deployed in recent years as national needs were given priority: around 1000 Ukrainian military personnel served in nine UN and NATO missions in 2017.³¹

vol. 30, no. 1 (2017), pp. 30–49; Luhn, A., ‘The draft dodgers of Ukraine’, *Foreign Policy*, 18 Feb. 2015; and British Home Office, *Ukraine: Military Service*, Country policy and information note, version 4.0 (Home Office: London, Apr. 2017).

²⁹ Ponomarenko, I., ‘Law on electronic military call-up register comes into force’, *Kyiv Post*, 21 Apr. 2017.

³⁰ Gallup International Association, ‘WIN/Gallup International’s global survey shows three in five willing to fight for their country’, Press release, [Dec. 2015].

³¹ Ukrainian Ministry of Defence and General Staff of the Ukrainian Armed Forces, *White Book 2017* (note 24), p. 130.



Foreign forces deployed in Ukraine

Ukrainian law prohibits the deployment of foreign troops to Ukraine for basing or operations.³² However, foreign deployments to Ukraine to train Ukrainian personnel are not prohibited and since 2014 foreign military personnel—from Canada, the United Kingdom and the USA, among others—have been active in Ukraine to train Ukrainian military personnel, including combat troops. By October 2017 the USA deployed 300 military personnel for training.³³ US troops were also active in Ukraine in 2017 to build a naval command centre at Ochakiv (see section II). Between February 2015 and early 2018 the UK's Operation Orbital deployed over 1300 military personnel to train 7000 Ukrainian troops.³⁴ The operation continued into 2018.

In January 2018 a new law allowed for the first time a limited number of foreign forces—up to 3000 at a time—to temporarily enter Ukraine for joint exercises with Ukrainian forces in 2018. Several such exercises are planned with forces from the USA, other NATO states and other NATO partners.³⁵ The first sets of these exercises were held in September and October 2018. In September, 350 Ukrainian troops and some 1850 troops from 10 NATO countries and 3 other countries took part in the two-week Rapid Trident 2018 exercise of land forces.³⁶ This was followed in October by Clear Sky-2018, a 12-day exercise of air forces from Ukraine and eight NATO countries.³⁷

Since 2014 an estimated 3000–7000 regular Russian troops and a larger number of Russian 'volunteers' have been in the Donetsk and Luhansk oblasts supporting rebel forces in their armed conflict with the Ukrainian Government.³⁸

The events of 2014 led to a 22 per cent increase in military spending in 2014 and an 11 per cent increase in 2015

V. Military spending

Between 2007 and 2017 Ukrainian military expenditure first fell and then climbed again before levelling off (see table 3). Between 2007 and 2011

³² RIA Novosti, [Poroshenko signed a law on admission of foreign military to Ukraine], 29 Jan. 2018 (in Russian).

³³ Watson (note 15).

³⁴ British Ministry of Defence, 'UK extends training of Ukrainian armed forces', 17 July 2017; British Embassy in Kyiv, 'UK programme assistance to Ukraine 2016–2017', 26 Jan. 2017; Curzon, F. R. P., Earl Howe, Minister of State for Defence, 'Ukraine: Operation Orbital', Written Statement HLWS209, British House of Lords, 12 Oct. 2015; and UNIAN, 'British ambassador: 7,000 Ukrainian troops participate in UK training programme', 29 Jan. 2018.

³⁵ Interfax-Ukraine, 'Poroshenko signs law allowing foreign troops into Ukraine for drills in 2018', 29 Jan. 2018; and RIA Novosti (note 32).

³⁶ Radio Free Europe/Radio Liberty, 'Ukraine–NATO joint military exercises begin in Lviv region', 3 Sep. 2018.

³⁷ Maza, C., 'US Air Force to join Ukraine in military exercises to bolster NATO and regional security', *Newsweek*, 19 Sep. 2018; Hodge, N., 'Ukraine and Russia step up a confrontation, and the US is not a bystander', CNN, 16 Oct. 2018; and UNIAN, "'Clear Sky-2018": Ukraine launches exercise with participation of US aircraft', 8 Oct. 2018.

³⁸ Facon, I., *Russian Military Presence in the Eastern Partnership Countries* (European Parliament, Directorate General for External Policies: Brussels, July 2016), p. 8; International Institute for Strategic Studies, *The Military Balance 2018* (Routledge: Abingdon, 2018), p. 207; Interfax-Ukraine, 'Kyiv says there are about 6,000 Russian soldiers, 40,000 separatists in Donbas', Kyiv Post, 11 Sep. 2017; and Johnson, R. F., 'Russian forces "now 11,000 strong in the Donbas"', *IHS Jane's Defence Weekly*, 6 Oct. 2017.



spending decreased by 17 per cent in real terms, and also fell as a share of gross domestic product (GDP) and as a share of government spending. This was followed by increases in 2012 and 2013, but military spending remained relatively stable as a share of GDP and of total government spending as the economy grew. The events of 2014 led to a 22 per cent increase in military spending in 2014 and another 11 per cent increase in 2015. It significantly increased as a share of GDP and of government spending, signifying the growing emphasis on the military over other government spending in those years.

Although Ukraine's military spending as a share of GDP has been relatively high, even before 2014, funding has been a major problem for the armed forces since the end of the cold war. Acquisitions of new equipment, training, salaries and operations have often been delayed, cut or kept low because of a lack of money.

VI. Arms holdings and acquisitions

The Ukrainian armed forces have been reorganized significantly since 1991 and plans have been announced several times for new equipment or modernization of existing equipment. However, little new equipment had been acquired by 2014 and much of the inventory inherited from the Soviet Union had been sold, destroyed or put into long-term storage. Most of the equipment kept in service has not been modernized since at least 1992. Only after

the events of 2014 has Ukraine focused more on upgrading its armed forces' inventory.³⁹ Military spending drastically increased from mid-2014 (see section V) and, according to President Poroshenko, funding for equipment was 10 times

higher in 2017 than in 2013.⁴⁰ However, the pace of inventory modernization has been slow and the scale limited. For example, only a few dozen T-72 tanks were modernized in 2017, and only a handful of newly produced T-84 Oplot tanks were delivered in 2017.⁴¹ Most or all of the equipment acquired or modernized has been land systems and ground-attack aircraft for land warfare against rebel forces. Little of the equipment was related to Ukraine's broader security concerns or potential use against better equipped enemies. For example, almost no naval weapons and air defence systems have been modernized or acquired.

The Ukrainian Navy is by far the weakest of the three services. A substantial part of the Soviet Black Sea Fleet was based in Ukraine when the Soviet Union dissolved, as were some of the main Soviet naval shipyards with several unfinished large warships. The equitable division of the Black Sea Fleet became a major source of dispute between Russia and Ukraine. In 1992 most of the fleet was controlled by crews loyal to Russia and only a handful of ships were under Ukrainian control. A division of the fleet was finally agreed in 1997, with Russia retaining most of the ships, many of which continued to be based in Sevastopol, Crimea, leaving Ukraine with only a few smaller

The Ukrainian Navy is by far the weakest of the three services

³⁹ *Segodnya*, [Poroshenko: we are starting to modernize the army], 23 Aug. 2017 (in Russian).

⁴⁰ *Segodnya* (note 39).

⁴¹ *Segodnya* (note 39); and Foss, C. F., 'Heavy armour: a tale of two worlds', *Jane's International Defence Review*, Feb. 2018, p. 40.



and older ships.⁴² By that time, almost all the ships in production in Ukraine had been cancelled and were left to rust, dismantled or sold unfinished. The Ukrainian Navy was limited to being a coastal force with mostly old and under-maintained ships; it had only one large ocean-going but lightly armed frigate.⁴³ The navy was further reduced when Russia gained control of Crimea in 2014. The Ukrainian Navy lost its main base at Sevastopol as well as numerous ships based there and some key personnel.⁴⁴ Some of the ships were returned by Russia but most were reported to be in poor condition.⁴⁵ By 2017 even the single relatively new frigate, commissioned in 1993, was in urgent need of a major overhaul.⁴⁶

Since 1992 Ukraine has announced plans for new ships several times. Acquisition of a number of new Ukrainian-designed light frigates (labelled ‘corvettes’ by Ukraine) fitted with weapons and other equipment largely sourced from European suppliers has been planned for over a decade. A design was finished by 2010 and in 2011 the government approved production of the first four, to be delivered by 2021 at a cost of 16 billion hryvnia (\$2 billion). However, the programme was probably unrealistic from the start—total military spending in 2011 was only 29 billion hryvnia—and it was then overtaken by economic problems and the events of 2014.⁴⁷ No progress has been reported since. Vague plans to acquire used warships from abroad, such as a plan in 2008 for several former US frigates, have mostly come to nothing.⁴⁸ An order for three used Flyvefisken patrol craft/mine-countermeasures ships from Denmark in 2017, for a reported €100 million (\$113 million), was Ukraine’s first significant acquisition of naval equipment.⁴⁹

Ukraine’s efforts to export weapons are reportedly to generate income for the state

Ukraine inherited a substantial arms industry from the Soviet Union. Some of this rapidly fell into disrepair as its main client, the Soviet Union, disappeared and the main successor state, Russia, had few funds and little interest in ordering equipment from Ukrainian companies. Ukraine’s efforts to export weapons are reportedly to generate income for the state.⁵⁰ It is also likely that larger production runs help to reduce unit costs for Ukrainian orders. The emphasis on export earnings, even after 2014, is probably a significant reason why Ukraine has not fully mobilized its arms industry to modernize its own armed forces. A good example is the Oplot tank, which was first delivered to the Ukrainian Army in 2017, several years after production and deliveries for export had started.⁵¹ Ukraine remains almost entirely

⁴² Denisentsev, S., ‘The Soviet inheritance of Ukrainian armed forces’, eds Howard and Pukhov (note 26), pp. 51–52.

⁴³ Saunders, ed. (note 5).

⁴⁴ TASS, ‘Russian state flags raised over most of Ukrainian mil units, ships in Crimea’, 22 Mar. 2014.

⁴⁵ Global Security, ‘Ukrainian Navy’, [Apr. 2014].

⁴⁶ Soyuzov, A., [Frigate *Sahaydachniy* as a mirror of the agony of the Naval Forces of Ukraine], Federal’noe Agentstvo Novosti, 15 Feb. 2017 (in Russian).

⁴⁷ UAWire, ‘Ukrainian Navy Vice Admiral: Kyiv could not find funds for the planned construction of warships’, 5 June 2018; and Global Security, ‘Project 58250 Corvette/Hayduk-21/Gaiduk-21 Volodymyr Velyky [“Vladimir the Great”]’, [n.d.].

⁴⁸ Schogol, J., ‘Gates says Ukraine wants warships, but has to wait’, *Stars and Stripes*, 9 Oct. 2008.

⁴⁹ Kovalenko, A., [Danish minesweepers ‘Flyvefisken’ can replenish the Ukrainian Navy], *Juzniy Kurier*, 13 Sep. 2018 (in Russian).

⁵⁰ Wertheim (note 16).

⁵¹ *Segodnya* (note 39); and Foss (note 41).



dependent on its own industry to provide new weapons and to modernize and maintain the large but often outdated existing inventories. However, there are several important gaps in the arms industry that it inherited. For example, Ukraine did not inherit a plant for producing rifles or machine guns and it had only one large ammunition plant, which was captured in 2014 by rebels.⁵² In mid-2017 President Poroshenko approved changes to the 2017 budget to increase the defence budget by 2.5 billion hryvnia (\$95 million), more than a half of which is to be spent on construction of a new ammunition factory.⁵³

Before 2014 Ukraine was in discussion with several countries for possible acquisitions of small volumes of weapons and components, but contracts had been signed for only a few of these by early 2014.⁵⁴ Domestic production has been enough to sustain Ukraine's forces in its operations, but during the conflict it became clear that the armed forces were deficient in some equipment, including night-vision systems, electronic warfare systems, communications systems and specialized radars.⁵⁵ As the conflict in Ukraine started and the tensions with Russia increased, Ukraine asked Western countries to supply weapons, either as aid or to buy. However, the USA, Canada and most countries in Europe quickly made clear that while they supported Ukraine, this was not going to translate into supplies of large volumes of, or indeed any, lethal military equipment, although some were prepared to supply limited volumes of non-lethal equipment and training.⁵⁶ By 2016 only Lithuania and Poland had been reported to have supplied lethal weapons as aid.⁵⁷

By 2017 suppliers had become more willing to deliver lethal equipment. In early 2018 the first batch of 200 second-hand BMP-1 infantry fighting vehicles and an unknown number of 2S1 self-propelled guns were delivered by a Czech company after being overhauled (via a Polish company) in a commercial deal that may have been signed in 2014.⁵⁸ Some NATO countries have also allowed their companies to join Ukrainian companies in development of military equipment or to supply key components for Ukrainian weapons. For example, two Spanish companies will supply a mortar system to be used on Ukrainian armoured vehicles.⁵⁹ Another example is the M4-WAC-47 rifle, which is intended to become Ukraine's standard rifle. It has been developed by a US company on the basis of the US standard M4 rifle. It can use Soviet-era ammunition, of which Ukraine has large stocks, but can easily be modi-

During the conflict in Ukraine it became clear that the Ukrainian armed forces were deficient in some equipment

⁵² Ponomarenko, I., 'New Ukrainian M4-WAC47 rifle "a strong political message to Russia"', *Kyiv Post*, 28 Jan. 2018.

⁵³ *Segodnya*, [Changes in the budget-2017: 'defense' sector will receive additional 2.5 billion hryvnia], 1 Aug. 2017.

⁵⁴ SIPRI Arms Transfers Database, Mar. 2018.

⁵⁵ Roblin, S., 'Why is the Trump Administration selling giant sniper rifles to Ukraine?', *War is Boring*, 2 Mar. 2018.

⁵⁶ Wezeman, S. T. et al., 'The impact of the crisis in Ukraine on arms transfers', *SIPRI Yearbook 2015: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2015), pp. 79–83.

⁵⁷ Wezeman et al. (note 56); *Segodnya*, [Ukraine is waiting for lethal armament not only from the USA: Poltorak], 23 Aug. 2017; and Ponomarenko (note 52).

⁵⁸ Army Recognition, 'Excalibur Army to provide Ukrainian Army with 2S1 howitzers and BMP-1 IFVs', 4 May 2018.

⁵⁹ Foss, C. F., 'Bars-8 mortar carrier undertakes acceptance trails', *Jane's International Defence Review*, 3 Feb. 2018, p. 15.



fied to use NATO-standard ammunition, which would facilitate Ukrainian joint operations with NATO forces. The first few were tested in Ukraine in early 2018 but it is doubtful that Ukraine can financially afford to replace its current rifles.⁶⁰

Providing lethal military equipment to Ukraine, as aid or as sales, has led to debate in various European countries and, in particular, the USA. In 2014 some members of the US Congress, mainly from the Republican party, and some high-level officials of the Department of Defense (DOD) and the Department of State suggested or demanded that the US administration of President Barack Obama, a Democrat, should give lethal aid. The Congress even passed the Ukraine Freedom Support Act in December 2014 to allow the administration to provide military equipment and aid to Ukraine.⁶¹ However, Obama refused to offer more than limited aid in the form of training and non-lethal equipment.⁶² During his presidential election campaign in 2016, Donald J. Trump, a Republican, made a minor point of criticizing Obama for not doing more for Ukraine but he himself did not join other Republicans who wanted to give Ukraine lethal aid.⁶³ By mid-2016 only some limited sales of small arms had been allowed.⁶⁴ After Trump took office as president in January 2017, it took the new administration until December 2017 to follow the line of the Congress. The 2018 defence budget proposal by President Trump included aid of \$350 million for Ukraine and authorized the supply of lethal weapons, but the final agreed budget reduced the funding for 2018 to \$200 million.⁶⁵ The US Government then announced that it would allow the first large supply of US lethal equipment to Ukraine: it approved in principle possible sales, not aid, of long-range sniper rifles, shotguns and related equipment worth \$41.5 million, and 35 Javelin anti-tank missile launchers with 220 missiles worth \$48 million.⁶⁶ The Javelin plan was then formally approved on 1 May 2018, adjusted to 210 missiles from US military stocks and 37 launchers.⁶⁷ Ukraine had asked for 1200 missiles.⁶⁸ The supplied missiles will not have a major impact on Ukraine's fighting capabilities but are largely a political symbol and may open the way for more US sales. According to the US DOD, further sales to Ukraine are likely and future decisions on such sales will

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⁶⁰ *Military Technology*, 'News flash', no. 3 (Mar. 2018), p. 63; Ponomarenko (note 52); UkrOboronProm, 'M16-WAC-47 for Ukrainian Army from UkrOboronProm', 10 Jan. 2017; and UkrOboronProm, 'UkrOboronProm in 2017: achievements' (note 19).

⁶¹ Ukraine Freedom Support Act, US Public Law 113-272, signed into law 18 Dec. 2014.

⁶² Steinhauer, J. and Herszenhorn, D. M., 'Defying Obama, many in Congress press to arm Ukraine', *New York Times*, 11 June 2015; and Rogin, J., 'Trump administration approves lethal arms sales to Ukraine', *Washington Post*, 20 Dec. 2017.

⁶³ Rogin, J., 'Trump campaign guts GOP's anti-Russia stance on Ukraine', *Washington Post*, 18 July 2016.

⁶⁴ Rogin (note 62); and Lederman, J., 'US agrees to send lethal weapons to Ukraine, angering Russia', *Military Times*, 23 Dec. 2017.

⁶⁵ UAWire, 'Trump signs US Defense Bill with \$350 million allocated for Ukraine', 12 Dec. 2017; 112.UA, 'US may allocate \$200 million of military aid to Ukraine', 22 Mar. 2018; and US Department of Defense, 'DOD announces \$200m to Ukraine', Press Release no. NR-222-1820, July 2018.

⁶⁶ Roblin (note 55).

⁶⁷ US Defense Security Cooperation Agency, 'Ukraine: Javelin missiles and command launch unit', News Release no. 18-02, 1 Mar. 2018.

⁶⁸ Roblin (note 55).



probably be made faster.⁶⁹ Russia's view on the proposed aid and sales was of course negative; it stated that it changed the US role in the conflict from possible 'mediator' to one of 'accomplice'.⁷⁰

While the US is potentially Ukraine's most important source of equipment, Canada decided to allow sales of lethal weapons some days before the USA.⁷¹ It is, however, unclear if Canada has actually supplied or approved the supply of weapons to Ukraine, as the Canadian Government has refused to provide any information to the public.⁷²

VII. Conclusions

Before the events of 2014, Ukraine's security interests in the Black Sea and the other littoral states were limited. Ukraine was trying to define its place in Europe, swaying between close relations with Russia and with the West. Its defence policy and the size and structure of its military forces were in disarray. Notably, the navy was neglected even more than the other services and Black Sea security was barely mentioned in official documents on defence, security and foreign policy. Early 2014 was a turning point. The events of 2014 meant that the conflict in eastern Ukraine and Russia became by far the most important security concerns of Ukraine. They pushed the already limited Ukrainian interest in Black Sea security far down the list of priorities, but also led to Ukraine prioritizing joining NATO. Ukraine has joined some NATO activities in the Black Sea, but that probably represents more an effort to be seen as a potential NATO member than an increase in concern for wider Black Sea security as is the case in Bulgaria, Romania and Turkey.

However, NATO membership is likely to be a long way off. While many Western states and NATO members have stated their general (but not total) political support for Ukraine over Crimea and the conflict in eastern Ukraine, this has not translated into much practical support. Ukraine probably has no option but to accept that it has lost Crimea for good and that it must find any military solution to the conflict in the east, or even just containment of the rebels, on its own. However, the USA and several East European NATO members have recently increased or have stated an intention to increase support for Ukraine in its attempts to re-establish control over Donetsk and Luhansk. Notwithstanding that increased support, until the conflict is resolved neither NATO nor the EU is ready to accept Ukraine as a member and both are moving only slowly towards closer military and security cooperation with Ukraine.

⁶⁹ Tucker, P., 'Pentagon is speeding up arms exports to Saudi Arabia, other allies', *Defense One*, 23 May 2018.

⁷⁰ Lederman (note 64).

⁷¹ Sevunts, L., 'Liberals clear way for weapons sales to Ukraine', *Radio Canada International*, 14 Dec. 2017; and Gorka (note 16).

⁷² Berthiaume, L., 'Ottawa won't say whether any arms have been exported to Ukraine', *Globe and Mail*, 17 May 2018.



Abbreviations

DOD	Department of Defense
EEZ	Exclusive economic zone
EU	European Union
GDP	Gross domestic product
NATO	North Atlantic Treaty Organization
PCA	Partnership and Cooperation Agreement
UN	United Nations

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STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE

Signalistgatan 9
SE-169 72 Solna, Sweden
Telephone: +46 8 655 97 00
Email: sipri@sipri.org
Internet: www.sipri.org

SIPRI BACKGROUND PAPER

UKRAINE AND BLACK SEA SECURITY

SIEMON T. WEZEMAN AND ALEXANDRA KUIMOVA

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ABOUT THE AUTHORS

Siemon T. Wezeman (Netherlands) is a Senior Researcher with the SIPRI Arms Transfers and Military Expenditure Programme. His areas of research include the monitoring of arms transfers, with particular focus on the Asia–Pacific region and former Soviet Union, and the use of weapons in conflicts.

Alexandra Kuimova (Russia) is a Research Assistant with the SIPRI Arms Transfers and Military Expenditure Programme. Working with the SIPRI Military Expenditure, Arms Industry and Arms Transfers databases, she focuses on developments in the Middle East and North Africa region, and post-Soviet states.