The crisis in Ukraine affected arms trade relations in different ways in 2014. First and foremost, the parties to the armed conflict, the Ukrainian Government and the separatist rebels in eastern Ukraine, fought a large-scale conventional war with large numbers of weapons, including heavy weapons. Most of these weapons were in the Ukrainian inventory before the crisis started, but Russia also supplied weapons to the rebel forces.

Ukraine quickly discovered that it was lacking in certain types of equipment and asked Western countries to supply these, leading to a discussion between North Atlantic Treaty Organization (NATO) countries about whether such transfers would be appropriate. The United States and European governments were generally sceptical about supplying arms but the US Administration came under heavy pressure from Congress to assist Ukraine.

The crisis also affected Russian–Ukrainian arms trade relations, which after some hesitation on the Ukrainian side had been broken off by the end of 2014—probably irreversibly. This presents serious problems for Russia, which is dependent on Ukraine for some key components and must now find alternatives. Russia’s developing arms trade relations with Western states, mainly European Union (EU) member states, have also been suspended. This has had a major impact on Russia’s hopes of developing weapons and components in cooperation with EU member states and of gaining access to advanced Western military technologies. Again, Russia will need to find alternatives. Both sets of broken relations are likely to affect the already stretched Russian economy and plans for military modernization.

This section reviews the discussion on and current situation regarding Western supplies of arms and other military equipment to support Ukraine, and Russian supplies to the rebel forces. It also assesses the impact of the crisis on the Russian–Ukrainian arms trade and on arms transfers between the West and Russia.

**Russian–Ukrainian arms trade**

Russia inherited most of the Soviet arms industry after the break-up of the Soviet Union in the early 1990s, but some significant design and production facilities were located in other Soviet republics. Ukraine was the second largest heir to the Soviet arms industry and Russia became dependent on Ukraine for key components for a number of weapons in service, pro-
duction or development. Despite Russia’s efforts to duplicate or replace these components, by 2014 it was still reliant on Ukrainian production with regard to several important weapons. Ukraine produces or partly produces (a) the engines of Mi-8 and Mi-17 transport helicopters—the mainstay of the Russian armed forces helicopter fleet—and of Mi-24 combat helicopters; (b) the gas turbines used in almost all large naval combat ships; and (c) components for the new T-50 combat aircraft, the long-range S-300, S-350, S-400 and S-500 surface-to-air missile (SAM) systems, and some classes of torpedoes.¹ Some Russian intercontinental ballistic missiles (ICBMs) and Space Launch Vehicles (VLVs) also depend on Ukrainian components. Russia reportedly paid an annual fee of $10 million for Ukrainian industry supplies and support for its R-36 (SS-18) ICBM.² In addition, the Russian Black Sea Fleet relies on overhaul and repair work carried out in Ukrainian shipyards in Crimea.³ No exact data is available on Ukrainian exports to Russia. Russia’s Federal Service of Military-Technical Cooperation (FSMTC) claims that the trade is worth less than $10 million per year.⁴ More reliable estimates put the value at around $500 million annually, or about half of total Ukrainian exports.⁵ Deals with a reported value of $200 million discussed at an arms fair in Russia in 2013 give another indication of the true value.⁶

Ukroboronprom, a state-owned Ukrainian conglomerate, ceased all exports of military equipment to Russia in March 2014.⁷ The status of a joint venture negotiated by Russian and Ukrainian engine producers at the end of 2013 remains unclear. The plan was for the joint development of engines for, among other things, Russia’s new T-50 combat aircraft, and for Ukrainian producers to manufacture engines for Russian helicopters, and transport and trainer aircraft. The indications in March 2014 were that the joint venture would likely proceed. The deal is of great importance to the

---

⁵ Anderson (note 1), p. 21.
Ukrainian economy and to Russia’s weapons production programme, but by the end of 2014 its future was unclear.\textsuperscript{8} Russia and Ukraine had also agreed late in 2013 to restart production of the An-124 transport aircraft, designed and produced by companies now situated in Ukraine. Russia needs the aircraft and Ukraine would benefit from the sales.\textsuperscript{9} However, by early 2015 Russia had cancelled plans to develop and acquire the An-70 transport aircraft, an even more important joint Russian–Ukrainian project, indicating a possible end of all Russian–Ukrainian arms relations.\textsuperscript{10} Russia reacted by seeking alternative producers in other former-Soviet republics, and Belarus, a close ally of Russia, was viewed as the most likely partner.\textsuperscript{11} In August 2014 Russia announced an ‘import substitution strategy’ for its military spacecraft production.\textsuperscript{12} By the end of 2014 Russia claimed to have sourced or developed equivalents for all Ukrainian components, including helicopter engines.\textsuperscript{13} However, it seems unlikely that Russia could overcome its reliance on Ukrainian components in such a short time. The crisis in Ukraine has almost certainly added a new layer to Russia’s procurement costs due to the unplanned investment it has had to make in indigenous production of equipment and components to substitute for those covered by Ukraine’s export ban or the sanctions imposed by Western countries (see below and section I). Plans were announced to rapidly replace dependency on imports for all Russian military equipment.\textsuperscript{14}

**European–Russian arms trade**

Before the crisis there was a limited but growing trade in military equipment and technology from Western Europe to Russia. In some sectors there were indications of substantial potential orders from Russia. The crisis has slowed, but not completely halted this trade. European countries had different and sometimes conflicting opinions on how far the arms trade


\textsuperscript{11} ‘Russia seeks increased defence production with Belarus’, *Jane’s Defence Weekly*, 9 Apr. 2014, p. 5.

\textsuperscript{12} ‘Russia’s state arms exporter signs $100mln in contracts’, RIA Novosti, 14 Aug. 2014.

\textsuperscript{13} Anderson, G., ‘Russia claims import substitution complete on Mi-8’, *Jane’s Defence Weekly*, 5 Nov. 2015, p. 21. It remains unclear whether Russian production is enough to cover such helicopters produced for export.

with Russia should or could be limited. In March 2014 Germany suspended a €120 million contract for equipment for a large, advanced training centre.15 The United Kingdom suspended licences it had granted for the export of military and dual-use equipment to Russia as well as licences for the export to Ukraine of equipment that could be used for internal repression.16 The biggest contract to supply major equipment to Russia since the end of the cold war was the sale in 2011 of two Mistral amphibious assault ships by France. At the time of the negotiations several NATO and EU partners expressed negative opinions about the potential impact of the ships on their security. By early 2014, when the first ship was ready for delivery, several NATO members, including Poland and the USA, openly urged France to suspend delivery. France, supported by Germany, despite the latter’s earlier suspension of a contract, initially insisted that a signed contract must be honoured, since even under the limited EU sanctions there was no legal basis to suspend the deal.17 However, in September 2014, with the first Mistral completed and its Russian crew already in France, France refused to execute the transfer. By the end of 2014 France had still not given final export approval.18

The direct impact of the sanctions by Western countries on supplies of equipment and components to Russia is difficult to measure. While comments from Russian industry officials acknowledge that there have been some difficulties, they also suggest that there has been very little impact on existing orders and that Russia has been largely successful in substituting Ukrainian and Western producers with alternative suppliers.19 Other sources indicate a more substantial dependence on Western high-tech electronic and other components, many of which are dual-use.20 China was reported to have offered alternative sources for such items, potentially worth up to $1 billion per year.21 Negotiations with China on Chinese advanced electronic components for aircraft were reported at the end of 2014, as was cooperation on the development of new weapons.22

19 ‘Russian exports of precision weapons unaffected by Western sanctions’, RIA Novosti, 16 June 2014.
21 Dunnigan (note 20).
22 Bodner, M., ‘Russia–China military ties deepen amid Western pressure over Ukraine’, Moscow Times, 1 Dec. 2014.
Arming Ukraine

Although in the short term Ukraine will have available most of the types of weapons and military equipment it needs, it does lack certain items such as electronic warfare systems to protect Ukrainian aircraft against SAMs, artillery-locating radar, radios, unmanned aerial vehicles (UAVs) and other reconnaissance systems, night vision equipment, and body armour. Ukraine has repeatedly asked Western countries to sell or give it such equipment.23 Towards the end of 2014, when it became clear the agreements reached in Minsk in September had failed, some influential former government officials and experts in Europe and the USA advocated providing the Ukrainian armed forces with weapons.24 The NATO member states agreed during their September 2014 summit to increase support for the Ukrainian armed forces in several sectors, including logistics and command, control and communications. However, the support is limited and focused on non-lethal equipment and services, and by early 2015 had not yet fully started.25 Western countries have remained cautious and very little, mainly non-lethal, equipment had been supplied by early 2015. The major concerns about supplying equipment were: (a) the possibility of escalating the conflict with Russia; (b) the need to maintain the conditions for a successful diplomatic process based on economic and political sanctions on Russia, economic aid to Ukraine and negotiations; (c) that the Ukrainian armed forces were in too much disarray to absorb large numbers of new weapons; and (d) that deliveries would not change the balance in the access to weapons since Russia could increase deliveries to the rebels.

European states have generally been reluctant about or even publicly strongly opposed to supplying weapons or other military equipment to Ukraine. Following the change in political leadership in Ukraine and the armed rebellion in eastern Ukraine, the EU on 16 July 2014 discontinued a February 2014 agreement to suspend export licences for equipment that might be used for internal repression and to reassess export licences for

---

other military equipment. During the EU meeting about the Ukraine crisis on 31 August 2014, German Chancellor Angela Merkel declared that she considered arms supplies to Ukraine inappropriate because there was no military solution to the conflict. The German Government held this stance throughout the year. The UK has also repeatedly stated that it will not supply ‘lethal equipment’ since, according to cabinet member and former Foreign Secretary William Hague, ‘You have to think very, very carefully’ before sending in additional arms to a conflict. However, the UK did deliver some equipment such as body armour and medical kits in 2014 and allowed the sale of up to 75 second-hand Saxon armoured personnel carriers (APCs), carefully defining them as ‘defensive’ and ‘unarmed’. France and Italy have stated they will not supply lethal weapons. Smaller EU member states, such as Hungary and the Czech Republic, also did not see arms supplies as an option, underlining the problem of possible escalation. In September 2014 Poland denied a claim by Ukrainian Defence Minister Valery Heletey that NATO countries had started deliveries of arms. On possible arms sales, when Polish President Bronislaw Komorowski met Ukrainian President Petro Poroshenko in December 2014 he said: ‘If Ukraine is interested, then of course Poland is absolutely open to holding talks.’ However, while Poland announced it was sending military advisers to Ukraine to train Ukrainian forces, it ruled out supplying ‘heavy weapons’.

Lithuania announced in November 2014 that it would ‘provide support and ensure training’, which according to Ukraine includes arms supplies.³⁶ In early 2015 Lithuania acknowledged it had supplied small quantities of weapons and ammunition.³⁷ It argued that arms supplies would not mean any escalation of the conflict but rather that ‘inaction by the West will result in the early success of Russia’s military scenario’.³⁸

The US Government strongly condemned the annexation of Crimea by Russia and the latter’s role in the conflict in eastern Ukraine, but the bulk of its efforts have been directed to economic sanctions, aid to Ukraine and diplomatic initiatives.³⁹ Of the $355 million in aid provided in 2014, $120 million was allocated to security—exclusively in the form of ‘non-lethal military equipment’, but including some of the night vision equipment and mortar locating radar needed to boost Ukraine’s limited stocks.⁴⁰

Since the failure of the September 2014 agreements reached in Minsk, the pressure has significantly increased from both houses and both parties in Congress to supply ‘defensive military equipment and assistance’ or ‘lethal weapons’ such as anti-tank missiles. In December 2014 the House of Representatives called on President Obama ‘to provide the Government of Ukraine with lethal and non-lethal defense articles, services, and training required to effectively defend its territory and sovereignty’.⁴¹ Barely a week later both houses of Congress unanimously authorized a $350 million aid package that included non-lethal equipment such as UAVs and radar systems, but also lethal weapons in the form of anti-tank missiles.⁴²

However, the decision as to whether to supply aid or weapons rests solely with the US administration, which throughout 2014 followed a similar line to European policy—refusing Ukrainian requests for weapons and limiting security aid to the $120 million of non-lethal equipment agreed in early 2014. As of early 2015 the administration was still unwilling

---

⁴⁰This included body armour, helmets, uniforms, rations and tents, armoured vehicles, first aid equipment and boats. Woehrel (note 39).
to follow the direction of Congress. The issue of arming Ukrainian forces is a thorny one for the US Government, and the possible escalation of the conflict is a major concern.

More generally, maintaining communication with Russia remains an important goal of the Obama administration, as Russia is a key actor in several multilateral diplomatic efforts, for instance with Iran regarding its nuclear programme. However, in late 2014 and early 2015 several senior US Government officials and members of the military made unofficial comments in favour of providing more aid in the form of lethal equipment, or indicated that this option was being given serious thought by the US Government. According to Deputy National Security Adviser (and nominee for Deputy Secretary of State) Tony Blinken, the option of lethal aid should be and was being considered—although he also believed Russia could easily ‘outmatch’ any supplies.

Canada’s position is an example of how internal politics probably play a larger role with regard to the response to the crisis in Ukraine than concern about a Russian threat. It has adopted a similar approach to that of the USA, combining a firm tone towards Russia with concentration on diplomatic efforts and sanctions. Limited deliveries of non-lethal military equipment have taken place, such as second-hand winter uniforms, body armour and night vision devices, as well as some training services. As in the USA, the possibility of changing its position was discussed in December 2014.

The fact that Canada hosts the largest Ukrainian diaspora community, which has been active in lobbying parliament and the government

---


on the conflict, and its support for the party in power in upcoming national elections have been credited as major driving forces behind the Canadian Government's position.\footnote{Mackinnon, M., ‘Bypassing official channels, Canada’s Ukrainian diaspora finances and fights a war against Russia’, Globe and Mail, 26 Feb. 2015.}

**Arming Ukrainian rebels**

Since the start of the conflict the Ukrainian Government and US officials have repeatedly accused Russia of supplying vast numbers of weapons to rebel forces in eastern Ukraine, including tanks and other armoured vehicles, and heavy artillery.\footnote{US Department of State, ‘Russia’s continuing support for armed separatists in Ukraine and Ukraine’s efforts toward peace, unity and stability’, Fact sheet, 14 July 2014, <http://www.state.gov/r/pa/prs/ps/2014/07/229270.htm>; De Larrinaga, N., ‘Ukraine seizes “Russian” T-64 MBT near Donetsk’, Jane’s Defence Weekly, 9 July 2014; and Watson (note 35).} Other NATO members accept that Russia has supplied weapons, but have not always been convinced of the accuracy of the Ukrainian and US accusations.\footnote{‘Breedlove’s bellicosity: Berlin alarmed by aggressive NATO stance on Ukraine’, Spiegel Online International, 6 Mar. 2015, <http://www.spiegel.de/international/world/germany-concerned-about-aggressive-nato-stance-on-ukraine-a-1022193.html>.} While it is clear that the rebels are well equipped with heavy weapons, the claims of massive deliveries from Russia are difficult to confirm. Many of the weapons used by the rebels have been positively identified from photographs, but they are mostly types used by the Ukrainian armed forces as well as many others, including Russia.\footnote{For a well-documented overview of weapons identified as used by both parties, see Ferguson, J. and Jenzen-Jones, N. R., *Raising Red Flags: An Examination of Arms and Munitions in the Ongoing Conflict in Ukraine*, Armament Research Service (ARES) Research Report no. 3 (ARES: Nov. 2014).} The visual evidence therefore rarely proves Russian supplies, but nor does it support Russian statements that it has not delivered any weapons at all.\footnote{‘Kremlin: Ukraine separatist’s claim Russia provided tanks untrue’, Moscow Times, 18 Aug. 2014.} Unclear or patently false information has also caused confusion, as for example when Ukrainian parliamentarians tried to convince the US Senate Armed Services Committee that Russian troops were active in Ukraine using photographs of Russian troops invading Georgia in 2008, or when the rebels in June 2014 claimed to have the newly developed Verba portable SAM system in service.\footnote{Mackey, R., ‘Sifting Ukrainian Fact From Ukrainian Fiction’, New York Times, 13 Feb. 2015. The first Verba officially entered service in Russia on 30 May 2014. Delivery to the rebels at the same time or even earlier, therefore, seems highly unlikely. Burger, M., ‘Ukraine An-30 downed by newest Russian MANPADS’, AIRheads, 7 June 2014, <http://airheadsfly.com/2014/06/07/ukraine-an-26-downed-by-newest-russian-manpads/>.}

However, a few of the weapons identified as being in the possession of the rebels must have come from Russia. These include BTR-82AM APCs and T-72B3 tanks, both of which only entered service in Russia in 2013 and
are known not to have been exported by Russia to any other country.\textsuperscript{56} It remains unclear whether these weapons were being used by rebels or operated by the Russian military, or how many there were, but the fact that at least some have been identified as involved in the fighting undermines the Russian denials of direct involvement on Ukrainian territory and lends credibility to the claims of much larger Russian supplies to the rebels. Those claims are further supported by statements from Alexander Zakharchenko, the leader of the rebels in the self-proclaimed People’s Republic of Donetsk in eastern Ukraine, that Russia has supplied weapons as well as military personnel (for background information see section I).\textsuperscript{57}

The downing of Malaysian Airways flight MH17 in July 2014 over territory held by Ukrainian rebels sparked a barrage of accusations from Ukraine and Western countries of direct Russian involvement or Russian supplies of Buk (SA-11 or SA-17) SAM systems to the rebels, as well as Russian denials of any involvement.\textsuperscript{58} By the end of 2014 the evidence that a Buk missile, fired from rebel-held territory, had been used was overwhelming. Who pulled the trigger—and if it were the rebels, whether they had captured the weapon from Ukrainian stocks or received it from Russia—remained unclear.\textsuperscript{59} Ukraine has lost a considerable number of combat and other aircraft over rebel territory. Most seem to have been downed by portable short-range SAM systems, of which several types were seen in the hands of rebels in 2014.\textsuperscript{60} Ukraine and the USA claim Russia has supplied such weapons to the rebels.\textsuperscript{61} However, since most of the systems seen in possession of rebel forces have been in the inventory of the Ukrainian forces for many years, they might have been captured by the rebels. One portable SAM confirmed as being in the possession of rebels is the Polish-produced Grom. This was identified as part of a small batch sold by Poland to Georgia in 2007. Some were reported captured by Russian forces during the 2008 invasion of Georgia, and they seem to have been supplied to the rebels by Russia in 2014.\textsuperscript{62}

\begin{footnotesize}
\begin{enumerate}
\item[57] ‘Top Ukraine rebel leader says troops training in Russia’, Newsweek, 16 Aug. 2014; and ‘Kremlin: Ukraine separatist’s claim Russia provided tanks untrue’ (note 54).
\item[59] As of early 2015, the official Dutch-led investigation had reached a preliminary conclusion that an object had hit the aircraft. Dutch Safety Board, \textit{Preliminary Report: Crash Involving Malaysia Airlines Boeing 777-200 Flight MH17, Hrabove, Ukraine} (Dutch Safety Board: The Hague, Sep. 2014). An overview of the Buk missile system and other options linked to the MH17 crash can be found at Bellingcat, <https://www.bellingcat.com/tag/mh17/>.
\item[61] US Department of State (note 51).
\end{enumerate}
\end{footnotesize}
suspected Russian supplies of weapons to the rebels and Russia’s possible involvement in the downing of Malaysian Airways flight MH17 were instrumental in the decisions by the USA and the EU to impose sanctions on Russia (see section I).