II. Supplier developments, 2018

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SIPRI has identified 67 countries as exporters of major arms in 2014–18. The five largest suppliers of arms in that period were the United States, Russia, France, Germany and China. Together, they accounted for 75 per cent of the total volume of exports of major arms in 2014–18 (see table 5.2). The same five countries made up the top five in 2009–13, when they accounted for 74 per cent of the total volume of exports. However, since the total volume of transfers increased between 2009–13 and 2014–18, the top five in 2014–18 exported 10 per cent more arms than in 2009–13. Arms exports by the USA, France and Germany increased significantly, while arms exports by China increased marginally and Russia's arms exports decreased. The USA and Russia were by far the largest exporters in 2014–18, together accounting for 56 per cent of global exports. The top 25 arms exporters accounted for 99 per cent of the world's arms exports in 2014–18.

Countries outside North America and Europe play only a small role in the global export of arms, accounting for 13 per cent of the total volume of exports of major arms in 2014–18. Of the top 25 arms-exporting countries in 2014–18, 17 are in North America and Europe, three are in Asia and Oceania, three are in the Middle East, one is in Africa and one is in South America (see table 5.2).[1] This concentration of suppliers in the Euro-Atlantic region has been a feature of the entire period covered by the SIPRI Arms Transfers Database (1950–2018). Many of the countries listed in the top 25 for 2014–18 also appeared there in previous periods.

The United States

The USA was the largest exporter of major arms in the five-year period 2014–18, a position it has occupied for any five-year period since the end of the cold war (1991). Its exports of major arms grew by 29 per cent between 2009–13 and 2014–18 and its share of total exports rose from 30 per cent to 36 per cent. The gap between the USA and all other exporters widened. In 2009–13 US arms exports were 12 per cent higher than those of Russia—the second-largest arms exporter in that period. In 2014–18 they were 75 per cent higher than Russia's.

The Middle East accounted for 52 per cent of US arms exports in 2014–18 (see table 5.3), followed by Asia and Oceania (30 per cent), Europe

[1] For further detail on SIPRI's regional coverage see the Arms Transfers Database web page of the SIPRI website.

(11 per cent), the Americas (4.2 per cent) and Africa (2.9 per cent). US arms exports to the Middle East increased by 134 per cent between 2009–13 and 2014–18. US arms exports to Africa also rose, by 26 per cent, while there were decreases in arms exports to Asia and Oceania (–16 per cent), Europe (–8.1 per cent) and the Americas (–4.8 per cent).

The USA delivered major arms to at least 98 states in 2014–18. This is a significantly larger number of export destinations than any other supplier. The USA also delivered a small number of light armoured vehicles and anti-tank missiles to rebel forces in Syria in 2014–18. Of the world's 50 largest arms importers in 2014–18, only 10 did not place orders for or receive major arms from the USA during this period.

By far the largest recipient of US arms in 2014–18 was Saudi Arabia, which accounted for 22 per cent of US arms exports. This was 2.8 times the amount supplied to Australia, the second-largest recipient of US arms (see table 5.4). US arms exports to Saudi Arabia increased by 474 per cent between 2009–13 and 2014–18 and included 56 F-15SA combat aircraft. The flow of US arms to Saudi Arabia is likely to remain high for at least five years as there are still large outstanding orders, such as for another 98 F-15SA combat aircraft. In the US Congress, concerns about Saudi Arabia's participation in the war in Yemen, and its humanitarian impact in particular, led a bipartisan group of lawmakers to submit a bill in October 2018 to stop US arms transfers to Saudi Arabia.[2] US concerns about Saudi Arabia's goals and behaviour were compounded by the murder of the journalist, Jamal Khashoggi, at the Saudi Arabian consulate in Istanbul, Turkey.[3] The October bill was not adopted, but it highlighted significant and increasing divisions in the Congress, and between the Congress and the administration of President Donald J. Trump, about the issue of arms transfers to Saudi Arabia.[4] Late in 2018, another bill to reduce support for and arms supplies to the Saudi-led coalition in Yemen was presented in the Senate for discussion and was passed on 13 December 2018.[5]

The USA exports a wide variety of major arms. Aircraft accounted for 53 per cent of US arms exports in 2014–18 (see table 5.5). The aircraft exports included different types of aircraft but transfers of combat aircraft were significant and accounted for 24 per cent of total US exports of major arms in 2014–18. The USA delivered a total of 252 advanced combat aircraft to 14 countries. This included 83 F-35 combat aircraft to eight countries.

[2] Bartz, D., 'US lawmakers consider bill to ban arms sales to Saudi Arabia', Reuters, 24 Oct. 2018.

[3] See e.g. BBC News, 'Jamal Khashoggi: All you need to know about Saudi journalist's death', 11 Dec. 2018.

[4] Abramson, J., 'Senate bucks Trump's Saudi approach', *Arms Control Today*, Jan./Feb. 2019.

[5] Williams, A., 'Senators prepare to tackle US support for Saudi action in Yemen', *Financial Times*, 5 Dec. 2018; and Edmondson, C. and Savage, C., 'House votes to halt aid for Saudi Arabia's war in Yemen', *New York Times*, 13 Feb. 2019. On the conflict in Yemen see chapter 2, section V, in this volume.

Table 5.2. The 50 largest suppliers of major arms, 2014–18

The table lists countries that exported major arms in the 5-year period 2014–18. Ranking is according to 2014–18 total exports. Volume of exports figures are SIPRI trend-indicator values (TIVs). Percentages above 10 per cent have been rounded to the nearest whole number; those below 10 per cent to 1 decimal place. Figures may not add up to stated totals because of the conventions of rounding.

Rank			Volume of exports (TIV, millions)		Share (%),	Change (%), compared
2014–18	2009–13[a]	Supplier	2018	2014–18	2014–18	with 2009–13
1	1	United States	10 508	52 480	*36*	*29*
2	2	Russia	6 409	30 064	*21*	*–17*
3	5	France	1 768	9 948	*6.8*	*43*
4	3	Germany	1 277	9 324	*6.4*	*13*
5	4	China	1 040	7 633	*5.2*	*2.7*
6	6	United Kingdom	741	6 171	*4.2*	*5.9*
7	7	Spain	1 188	4 692	*3.2*	*20*
8	10	Israel	707	4 517	*3.1*	*60*
9	9	Italy	611	3 366	*2.3*	*–6.7*
10	11	Netherlands	369	3 064	*2.1*	*16*
11	13	South Korea	1 083	2 577	*1.8*	*94*
12	8	Ukraine	224	1 951	*1.3*	*–47*
13	15	Switzerland	243	1 443	*1.0*	*20*
14	20	Turkey	364	1 405	*1.0*	*170*
15	12	Sweden	134	1 003	*0.7*	*–62*
16	14	Canada	84	816	*0.6*	*–33*
17	16	Norway	64	714	*0.5*	*–12*
18	26	United Arab Emirates	113	510	*0.3*	*103*
19	34	Czechia	64	486	*0.3*	*472*
20	18	Belarus	56	469	*0.3*	*–26*
21	22	Australia	38	453	*0.3*	*3.9*
22	17	South Africa	149	450	*0.3*	*–35*
23	24	Brazil	111	352	*0.2*	*21*
24	23	Finland	68	297	*0.2*	*–9.1*
25	41	Portugal	3	256	*0.2*	*457*
26	30	Jordan	–	227	*0.2*	*19*
27	40	India	46	217	*0.1*	*343*
28	53	Indonesia	15	196	*0.1*	*2 338*
29	39	Bulgaria	7	182	*0.1*	*225*
30	33	Denmark	27	115	*0.1*	*22*
31	19	Uzbekistan	–	102	*0.1*	*–84*
32	31	Singapore	–	97	*0.1*	*–33*
33	28	Iran	–	87	*0.1*	*–58*
34	38	Serbia	–	71	*<0.05*	*21*
35	25	Poland	21	67	*<0.05*	*–75*
36	29	Austria	5	66	*<0.05*	*–66*
37	54	Slovakia	12	63	*<0.05*	*1 160*
38	21	Belgium	16	58	*<0.05*	*–87*
39	. .	Greece	–	30	*<0.05*	*. .*

Rank			Volume of exports (TIV, millions)			Change (%), compared
2014–18	2009–13[a]	Supplier	2018	2014–18	Share (%), 2014–18	with 2009–13
40	..	Egypt	–	30	*<0.05*	..
41	..	Chile	<0.05	20	*<0.05*	..
42	35	New Zealand	6	17	*<0.05*	*–77*
43	51	Malaysia	–	15	*<0.05*	*<0.05*
44	..	Kyrgyzstan	–	14	*<0.05*	..
45	32	Ireland	–	13	*<0.05*	*–87*
46	..	Georgia	–	13	*<0.05*	..
47	47	Brunei Darussalam	–	12	*<0.05*	*–50*
48	58	Colombia	–	10	*<0.05*	..
49	..	Ecuador	2	8	*<0.05*	..
50	..	Oman	–	7	*<0.05*	..
..	..	17 others	15	113	*0.1*	..
		Total	**27 588**	**146 291**	**..**	***7.8***

.. = not available or not applicable; – = no deliveries; <0.05 = between 0 and 0.05.

Note: The SIPRI data on arms transfers relates to actual deliveries of major arms. To permit comparison between the data on deliveries of different arms and to identify general trends, SIPRI uses a TIV. This value is an indicator of the volume of arms transfers and not of the financial values of such transfers. Thus, it is not comparable to economic statistics. The method for calculating the TIV is described in box 5.1.

[a] The rank order for suppliers in 2009–13 differs from that published in *SIPRI Yearbook 2014* because of a subsequent revision of figures for these years.

Source: SIPRI Arms Transfers Database, Mar. 2019.

The USA also delivered 56 F-15SA combat aircraft to Saudi Arabia and 8 to Singapore, as well as 12 F-16Cs to Egypt, 36 to Iraq and 12 to Oman.

Based on the volume of existing orders, it is possible to conclude that combat aircraft will continue to be the main US arms export for the foreseeable future. In 2018, for example, Japan and Belgium decided to procure 105 and 34 F-35 combat aircraft, respectively, while Slovakia ordered 14 F-16Vs. By the end of 2018, a total of 891 US advanced combat aircraft were on order or planned for order. The majority of these aircraft are F-35 combat aircraft and their delivery is having a growing impact on US exports. Full production is now under way and deliveries are increasing for both the US forces and export. In 2017, 66 F-35s were produced, including 30 for export. In 2018, 91 were produced and by 2023 annual production is set to be 160.[6] Upgraded versions of combat aircraft of older design also continue to be sold in large numbers, as evidenced in 2018 by the above-mentioned sales of F-16Vs to Slovakia and the offer of 114 or more F-16Vs to India, which would include

[6] Lockheed Martin, 'Pentagon and Lockheed Martin deliver 300th F-35 aircraft', Press release, 11 June 2018.

Table 5.3. The 10 largest suppliers of major arms and their destinations, by region and selected subregions, 2014–18

Figures are the percentage shares of the supplier's total volume of exports delivered to each recipient region in the 5-year period 2014–18. Percentages above 10 per cent have been rounded to the nearest whole number; those below 10 per cent to 1 decimal place. The shares may not add up to 100 because of the conventions of rounding. For further detail on SIPRI's regional coverage see the Arms Transfers Database web page of the SIPRI website.

	Supplier									
Recipient region	USA	Russia	France	Germany	China	UK	Spain	Israel	Italy	Netherlands
Africa	2.9	17	8.5	7.3	20	1.4	0.8	1.1	12	6.6
North Africa	2.5	14	6.8	7.2	11	1.2	–	–	10	5.9
Sub-Saharan Africa	0.4	2.6	1.7	0.1	8.8	0.1	0.8	1.1	2.3	0.7
Americas	4.2	1.4	8.7	11	4.0	4.3	9.1	10	9.5	31
South America	1.1	1.0	4.7	3.6	3.8	2.5	2.2	3.3	7.7	4.0
Asia and Oceania	30	60	29	30	70	29	60	61	21	20
Central Asia	0.1	4.2	1.1	0.5	3.7	–	2.6	<0.05	1.2	1.1
East Asia	13	15	6.7	20	–	7.5	2.1	2.7	0.1	–
Oceania	8.0	–	3.5	0.8	–	0.6	42	0.1	4.8	–
South Asia	5.5	29	10	1.2	52	8.4	0.3	46	8.1	0.9
South East Asia	3.9	12	8.0	7.7	14	13	13	12	7.2	18
Europe	11	5.8	9.4	27	0.2	5.9	0.1	25	15	15
European Union	8.7	<0.05	8.9	26	0.2	5.8	0.1	7.5	11	14
Middle East	52	16	44	25	6.1	59	29	1.8	43	28
Other	<0.05	–	–	–	–	–	0.6	0.6	0.2	–

– = nil; <0.05 = between 0 and 0.05.

Note: 'Other' refers to international organizations (or some non-state actors) that are not based in a single region, as well as unidentified recipients that cannot be linked to a specific region.

Source: SIPRI Arms Transfers Database, Mar. 2019.

basing a complete production line in India.[7] In addition, Israel announced plans in 2018 to purchase 20 to 25 F-15IAs.[8]

Guided missiles accounted for 19 per cent of the total volume of arms exports by the USA in 2014–18. These exports included the delivery of 400 cruise missiles and 124 ballistic missiles—both types with a range of between 250 and 400 kilometres—and around 36 500 anti-tank missiles and 53 500 guided bombs.

The USA has been the primary supplier of ballistic missile defence systems for many years. In the 10-year period 2009–18 the USA delivered Patriot PAC-3 systems to Kuwait, Qatar, Saudi Arabia, South Korea, Taiwan and the United Arab Emirates (UAE). It also delivered land-based THAAD systems to the UAE. In 2017–18 Poland, Romania and Sweden ordered Patriot PAC-3 systems, Saudi Arabia ordered the THAAD system, and Japan ordered additional SM-3 missiles and decided to procure two land-based AEGIS Ashore systems to counter a perceived threat from North Korean ballistic missiles that might be fitted with nuclear warheads.[9]

US policy on arms exports in 2018

Strong competition from other countries in the international arms market has led US companies to lobby for a less restrictive US arms export policy and a simpler, faster process for export permits. They found a somewhat sympathetic ear in the administration of President Barack Obama, which began a process of overhauling and simplifying the US export licensing system to allow faster decisions.[10] The Trump administration is continuing this process and in 2018 also introduced measures to speed up Foreign Military Sales (FMS) programme decisions.[11] Other measures to increase competitiveness include reducing the fees paid by foreign buyers for the

[7] Gould, J., 'With F-16 buy, Slovakia "cutting off" Russian hardware', *Defense News*, 18 Nov. 2018; and Singh, S., 'Washington lets Delhi know: Buy our F-16s, can give Russia deal waiver', *Indian Express*, 20 Oct. 2018.

[8] Fishman, A., 'IAF to supplement F-35 stealth jets with upgraded F-15 IA', Ynet News, 19 Nov. 2018.

[9] Kelly, T. and Kubo, N., 'Japan to buy US radar for missile-defense system', *Japan Times*, 1 July 2018; and Hornung, J. W., 'Japan's Aegis Ashore defense system', The RAND Blog, 20 Aug. 2018. See also chapter 6, section IX, in this volume.

[10] Fergusson, I. F. and Kerr P. K., *The US Export Control System and the Export Control Reform Initiative*, Congressional Research Service (CRS) Report for Congress R41916 (US Congress, CRS: Washington, DC, updated 5 Mar. 2019); and Seligman, L., 'Trump's push to boost lethal drone exports reaps few rewards', *Foreign Policy*, 6 Dec. 2018.

[11] Foreign Military Sales (FMS) are 'government-to-government' arms sales from the USA to a foreign state, in which the US Government acts as an intermediary between the US industry and the foreign state in negotiating, signing and executing the contract. Tucker, P., 'Pentagon is speeding up arms exports to Saudi Arabia, other allies', Defense One, 23 May 2018.

Table 5.4. The 25 largest suppliers of major arms and their three main clients, 2014–18

Percentages above 10 per cent have been rounded to the nearest whole number; those below 10 per cent to 1 decimal place.

Rank		Share of arms exports (%)		Per cent change	Main clients (share of exporter's total exports, %), 2014–18		
2014–18	Exporter	2014–18	2009–13	from 2009–13 to 2014–18[a]	1st	2nd	3rd
1	United States	*36*	*30*	*29*	Saudi Arabia (*22*)	Australia (*7.7*)	UAE (*6.7*)
2	Russia	*21*	*27*	*–17*	India (*27*)	China (*14*)	Algeria (*14*)
3	France	*6.8*	*5.1*	*43*	Egypt (*28*)	India (*9.8*)	Saudi Arabia (*7.4*)
4	Germany	*6.4*	*6.1*	*13*	South Korea (*19*)	Greece (*10*)	Israel (*8.3*)
5	China	*5.2*	*5.5*	*2.7*	Pakistan (*37*)	Bangladesh (*16*)	Algeria (*11*)
6	United Kingdom	*4.2*	*4.3*	*5.9*	Saudi Arabia (*44*)	Oman (*15*)	Indonesia (*11*)
7	Spain	*3.2*	*2.9*	*20*	Australia (*42*)	Turkey (*13*)	Saudi Arabia (*8.3*)
8	Israel	*3.1*	*2.1*	*60*	India (*46*)	Azerbaijan (*17*)	Viet Nam (*8.5*)
9	Italy	*2.3*	*2.7*	*–6.7*	Turkey (*15*)	Algeria (*9.1*)	Israel (*7.6*)
10	Netherlands	*2.1*	*1.9*	*16*	Jordan (*15*)	Indonesia (*15*)	USA (*11*)
11	South Korea	*1.8*	*1.0*	*94*	Indonesia (*17*)	Iraq (*17*)	UK (*15*)
12	Ukraine	*1.3*	*2.7*	*–47*	China (*27*)	Russia (*23*)	Thailand (*14*)
13	Switzerland	*1.0*	*0.9*	*20*	Saudi Arabia (*19*)	China (*18*)	Indonesia (*9.3*)
14	Turkey	*1.0*	*0.4*	*170*	UAE (*30*)	Turkmenistan (*23*)	Saudi Arabia (*10*)
15	Sweden	*0.7*	*1.9*	*–62*	Saudi Arabia (*16*)	UAE (*14*)	Algeria (*10*)
16	Canada	*0.6*	*0.9*	*–33*	Saudi Arabia (*22*)	India (*13*)	UAE (*7.6*)
17	Norway	*0.5*	*0.6*	*–12*	Oman (*28*)	Finland (*23*)	USA (*21*)
18	UAE	*0.3*	*0.2*	*103*	Egypt (*41*)	Jordan (*10*)	Yemen (*7.6*)
19	Czechia	*0.3*	*0.1*	*472*	Iraq (*40*)	USA (*17*)	Viet Nam (*9.9*)
20	Belarus	*0.3*	*0.5*	*–26*	Viet Nam (*37*)	Sudan (*18*)	Myanmar (*12*)
21	Australia	*0.3*	*0.3*	*3.9*	USA (*53*)	Indonesia (*25*)	Oman (*8.8*)
22	South Africa	*0.3*	*0.5*	*–35*	USA (*21*)	UAE (*21*)	India (*9.8*)
23	Brazil	*0.2*	*0.2*	*21*	Afghanistan (*32*)	Indonesia (*25*)	Lebanon (*9.1*)
24	Finland	*0.2*	*0.2*	*–9.1*	Poland (*56*)	UK (*7.1*)	Sweden (*6.7*)
25	Portugal	*0.2*	*<0.05*	*457*	Romania (*89*)	Belgium (*7.0*)	Uruguay (*2.7*)

UAE = United Arab Emirates; <0.05 = between 0 and 0.05.

[a] Figures show the change in volume of the total arms exports per supplier between the 2 periods.

Source: SIPRI Arms Transfers Database, Mar. 2019.

management of FMS contracts by the US Government.[12] At the same time, the Trump administration has started to be less restrictive in its export decisions, specifically to boost US exports and enable competition with other countries, such as Russia and China, which the USA perceives as having more permissive arms export policies.[13] The Trump administration justified these changes, to some extent, by highlighting the direct economic benefits from arms exports in the form of earnings and the creation of jobs in the USA.[14] An example of this new approach was the relaxation in early 2018 of US rules on the export of unmanned aerial vehicles (UAVs) and unmanned combat aerial vehicles (UCAVs, also known as armed drones), which partly had the aim of increasing US competitiveness with other suppliers, specifically China (see below).[15] According to a US government official, the new rules will 'minimize the self-inflicted bureaucratic and administrative hurdles to US competitiveness in the global aerospace markets'.[16]

One development that is potentially even more significant for US relations with its customers and allies than those previously mentioned is the USA's attempt, in recent years, to use its dominant position as an arms exporter as a tool of foreign policy by threatening to halt the supply of US equipment or components to countries that buy weapons from Russia. After passing the US Congress with overwhelming support, the Countering America's Adversaries Through Sanctions Act (CAATSA) was signed into law by President Trump on 2 August 2017.[17] In addition to supporting and strengthening existing US sanctions against Russia, Iran and North Korea, the act gives the US Government authority to deny US exports to countries that also buy arms from Russia. Moreover, the US Government can block any involvement by US government agencies or US companies in any transaction involving Russian arms. This could also have an impact on any use of the US dollar, a common currency in arms deals, through US banks in arms deals between Russia and third countries.

By 2018 the act already appeared to be having an effect on arms procurement decisions in certain countries. In December 2018, for example, the

[12] The US Defense Security Cooperation Agency (DSCA) manages the FMS contracts for foreign buyers. Forrester, C., 'US auditors target DSCA administration charges', *Jane's Defence Weekly*, 8 Aug. 2018, p. 22. For an overview of the FMS system see US Government Accountability Office (GAO), *Foreign Military Sales: Financial Oversight of the Use of Overhead Funds Needs Strengthening*, GAO-18-553 (GAO: Washington, DC, July 2018).

[13] Tucker (note 11).

[14] Stone, M. and Zengerle, P., 'Congress reviewing sale of precision munitions to Saudis, UAE: Sources', Reuters, 23 May 2018; and Caverley, J., 'America's arms sales policy: Security abroad, not jobs at home', War on the Rocks, 6 Apr. 2018.

[15] US Department of State, 'US policy on the export of unmanned aerial systems', Fact sheet, 19 Apr. 2018.

[16] Stone, M. and Spetalnick, M., 'Donald Trump to boost exports of lethal drones to more US allies', Live Mint, 20 Mar. 2018.

[17] For the text of CAATSA and other official US information related to it see the US Department of the Treasury website or the US Department of State website.

Table 5.5. The six largest suppliers of major arms, deliveries by arms category, 2014–18

The table lists the share of major arms exports by SIPRI arms category for the 6 largest suppliers in the 5-year period 2014–18. Percentages above 10 per cent have been rounded to the nearest whole number; those below 10 per cent to 1 decimal place. Percentage shares may not add up to 100 because of the conventions of rounding.

	Aircraft	Air defence systems	Armoured vehicles	Artillery	Engines	Missiles	Sensors	Ships	Other
USA	53	6.7	12	0.3	3.4	19	2.5	1.7	0.6
Russia	50	6.9	11	0.3	7.3	12	1.7	8.9	1.7
France	35	1.8	3.9	0.7	4.4	12	14	27	2.0
Germany	11	1.3	14	2.0	8.7	7.5	3.0	52	0.1
China	29	9.6	16	2.8	<0.05	16	2.9	24	0.5
UK	62	0.8	0.3	1.1	7.2	7.7	1.7	17	1.8
World	**43**	**6.0**	**11**	**0.9**	**4.6**	**14**	**4.8**	**15**	**1.3**

<0.05 = between 0 and 0.05.

Note: 'Other' includes naval weapons, satellites, gun turrets for armoured vehicles, and air refuelling systems.

For further detail on SIPRI's categories of major arms see the Arms Transfers Database web page of the SIPRI website.

Source: SIPRI Arms Transfers Database, Mar. 2019.

Philippines selected US helicopters instead of a cheaper alternative from Russia, due to an expectation that the US sanctions would block payment options in US dollars.[18] To circumvent US sanctions on contracts for Russian weapons paid for in US dollars, Russia has started to use the rouble or the currencies of its trading partners for its arms sales.[19]

It is difficult to see how the USA can apply this new policy consistently, as many of its key allies also buy Russian weapons. For example, Turkey has come under pressure over its acquisition of the S-400 surface-to-air missile (SAM) system from Russia. In response to that deal, the USA suspended delivery of F-35 combat aircraft to Turkey in August 2018.[20] However, Turkey has made it clear that it is not prepared to abandon the S-400 deal, despite the USA's threat of sanctions.[21] Russia and Iran have offered Turkey a share in the joint development of a fifth-generation combat aircraft as an alternative

[18] Mogato, M., 'Philippines to buy US helicopters, not Russian, due to sanctions: Official', Reuters, 7 Dec. 2018.

[19] RT, 'Ruble for whole caboodle: Russia phasing out US dollar in major arms deals with China', 29 Jan. 2019.

[20] Host, P. and Herschelman, K., 'US legislation that temporarily bans F-35 deliveries to Turkey becomes law', *Jane's Defence Weekly*, 22 Aug. 2018, p. 6; and US Department of Defense, 'Status of the US relationship with the Republic of Turkey', 26 Nov. 2018.

[21] RT, 'Mattis: "US does not recommend" Turkey buy Russian missile defense system', 28 Aug. 2018; and Ergan, U., 'Turkey to receive first F-35 fighter from US next month', *Hürriyet Daily News*, 9 May 2018.

to the F-35.[22] This case also highlights the difficulty of changing export decisions in large programmes where several countries are development and production partners. It is unclear how much legal and practical leverage the USA has with Turkey as Turkey is a legal partner in the F-35 programme and some components for the F-35 are currently only produced in Turkey.[23]

Another example is India, which has grown in importance as a security partner and arms export customer of the USA. However, Russia has long been and remains India's main arms supplier. India has concerns about the impact of CAATSA on its future arms relations with Russia, its military capabilities, which are highly dependent on continued Russian supplies, and its relations with the USA.[24] By the end of 2018, the US position remained unclear. In August 2018 the USA warned India that an order for the S-400 from Russia could have negative consequences and it suggested a US alternative.[25] India's concerns about the loss of military capabilities are also shared by the US military.[26] A meeting of the US and Indian foreign and defence ministers in September 2018 appeared to have resolved the issue around US sanctions and it was expected that the USA would grant India a CAATSA waiver.[27] In October 2018, however, media reports in India indicated that, according to US officials, a CAATSA waiver would only be possible if India 'significantly reduced reliance on Russian weapons', by fulfilling its requirement for 114 combat aircraft with an order for the US F-16.[28]

Russia

Russia's exports of major arms decreased by 17 per cent between 2009–13 and 2014–18, and its share of global exports fell from 27 per cent to 21 per cent. In 2014–18 Russia delivered major arms to 48 states but a total of 55 per cent of its arms exports went to just three recipients: India, China and Algeria. At the regional level, Asia and Oceania accounted for 60 per cent of Russian arms exports in 2014–18, Africa for 17 per cent, the Middle East for 16 per cent, Europe for 5.8 per cent and the Americas for 1.4 per cent.

The fall in Russian arms exports in 2014–18 was partly due to general reductions in Indian and Venezuelan arms imports—two countries that have

[22] Herschelman, K., 'Turkey rejects proposal to give up S-400 in exchange for US unblocking F-35', *Jane's Defence Weekly*, 5 Sep. 2018, p. 12.

[23] Herschelman, K., 'Turkey "will exercise legal rights" if US does not deliver F-35s', *Jane's Defence Weekly*, 22 Aug. 2018, p. 6.

[24] Behera, L. K. and Balachandran, G., 'Implications of CAATSA for India's defence relations with Russia and America', *Indian Defence Review*, 14 May 2018.

[25] RT, 'US official hints at sanctions over India's planned S-400 purchase from Russia', 31 Aug. 2018.

[26] Press Trust of India (PTI), 'Pentagon concerned over Russian sanctions' implications on India–US ties', *Hindustan Times*, 5 Apr. 2018.

[27] Press Trust of India (PTI), 'First 2+2 Dialogue "defining moment" for Indo-US relations: Mattis', *Economic Times*, 12 Sep. 2018.

[28] Singh (note 7).

been among the main recipients of Russian arms exports in previous years. Although India remained the chief recipient of Russian arms in 2014–18, Russian arms exports to India fell by 42 per cent between 2014–18 and 2009–13. Arms exports to Venezuela, which was the fifth-largest recipient of Russian arms in 2009–13, decreased by 96 per cent between the two periods (see also section III).

Russian exports of major arms to the Middle East increased by 19 per cent between 2009–13 and 2014–18. Whereas Russia accounted for 15 per cent of the total imports to the region in 2009–13, in 2014–18 it accounted for 9.6 per cent. Over the past few years, Russia has tried to reinforce its relations with some states in the Middle East, including Egypt and Iraq, through its arms deals, as well as to counter the USA's domination of the region's arms market. In 2014–18 Egypt and Iraq were the main recipients of Russian arms, accounting, respectively, for 46 per cent and 36 per cent of Russian arms exports to the Middle East. Deliveries to Iraq increased by 780 per cent between 2009–13 and 2014–18, while those to Egypt rose by 150 per cent. Russia's deliveries to Egypt included 3 S-300 SAM systems, 27 MiG-29M combat aircraft and 34 Ka-52 combat helicopters. Iraq imported 19 Mi-28N combat helicopters and 73 T-90S tanks from Russia. Russian deliveries to the Middle East are likely to remain high in the coming years. According to Rosoboronexport—the state agency through which most Russian arms exports agreements are made—the total financial value of outstanding deliveries of Russian weapons reached a record level of $50 billion in late 2018, and a 'significant' share of this was made up of contracts with Arab states.[29] In addition to being economically important for Russia, arms exports are also seen by Russia as an instrument of political influence: it believes that increasing its arms exports to the Middle East will give it greater visibility among other suppliers and strengthen its position across the entire region.[30]

West European countries and the European Union

The top five West European arms exporters—France, Germany, the United Kingdom, Spain and Italy—together accounted for 23 per cent of the total volume of global arms transfers in 2014–18, compared with 21 per cent in 2009–13.

The top 25 arms exporters in 2014–18 included 16 European states (see tables 5.2 and 5.4). Ten of the 16 are European Union (EU) member states. The combined total exports of all 28 EU member states was 9.9 per cent higher in

[29] RIA Novosti, [Rosoboronexport: The growing demand for Russian weapons], 12 Nov. 2018 (in Russian).

[30] Kuimova, A., 'Russia's arms exports to the MENA region: Trends and drivers', Euro-Mediterranean Study Commission (EuroMeSCo) Policy Brief no. 95 (1 Apr. 2019).

2014–18 than in 2009–13, and the EU member states' share of the global total increased from 26 per cent to 27 per cent between the two periods.

EU member states have agreed on 'high common standards' and 'convergence' in their arms export controls. However, there remain major differences in the actual arms export policies of EU member states.[31] In 2018 these differences were most evident in relation to arms exports to Saudi Arabia and the UAE (see below).[32] Despite such concerns, the Middle East was the region that accounted for the highest growth in exports for the three largest West European exporters: French arms exports to the region rose by 261 per cent between 2009–13 and 2014–18, while German and British exports grew by 125 per cent and 30 per cent, respectively.

France

France was the third-largest supplier of major arms in 2014–18, accounting for 6.8 per cent of the global volume. France's arms exports rose by 43 per cent between 2009–13 and 2014–18. A total of 44 per cent of French arms exports went to the Middle East, 29 per cent to Asia and Oceania, 9.4 per cent to other states in Europe, 8.7 per cent to the Americas and 8.5 per cent to Africa. France delivered major arms to 78 states in 2014–18. Egypt was by far the largest recipient of French arms during that period (see table 5.4), followed by India. French arms transfers to Egypt represented 28 per cent of total French exports of major arms. The major arms delivered to Egypt in 2014–18 were a FREMM frigate, 20 Rafale combat aircraft and 2 Mistral large amphibious assault ships. Around 9.8 per cent of French arms exports went to India in 2014–18. The major arms bought by or delivered to India were Scorpene submarines, Mirage-2000 combat aircraft, light helicopters and missiles. Neither Egypt nor India was a significant importer of French arms in 2009–13: French arms exports accounted for 2.0 per cent of Egypt's arms imports in the period and less than 1.0 per cent of India's.

France's approach to arms exports remains as assertive as it was in the period 2009–13, but there were more significant deliveries as well as a diversification of recipient countries in the period 2014–18. In 2009–13 the three main recipients of French major arms were China, Morocco and Singapore. In 2014–18, in addition to Egypt and India, the third-largest arms recipient was Saudi Arabia.

In 2018 a number of non-governmental organizations expressed concerns about human rights abuses, repression and involvement in armed conflicts by

[31] For further detail see European Parliament, Directorate-General for External Policies Policy Department, *The Further Development of the Common Position 944/2008/CFSP on Arms Exports Control*, Workshop Report (European Parliament: Brussels, 17 July 2018).

[32] For further detail see chapter 10, section IV, in this volume.

some of the largest recipients of French arms, most notably Egypt.[33] However, this had little impact on the French Government, which pressed ahead with the deliveries of ships and combat aircraft to Egypt and of armoured vehicles to Saudi Arabia.[34] The French Ministry of the Armed Forces made it clear in its June 2018 report on national exports that issues related to problematic humanitarian situations or involvement in armed conflicts are among the criteria for assessing decisions by the French Government on arms export licences. However, according to the report, arms exports are necessary to ensure France's national security and the financial viability of the country's arms industry.[35]

Germany

Germany was the fourth-largest supplier of major arms in 2014–18. Its exports increased by 13 per cent between 2009–13 and 2014–18, and its share of the global total rose from 6.1 per cent to 6.4 per cent. Germany supplied major arms to 72 states in 2014–18. A total of 30 per cent of German arms exports went to Asia and Oceania, 27 per cent went to other states in Europe, 25 per cent to the Middle East, 11 per cent to the Americas and 7.3 per cent to Africa. Ships, in particular submarines, accounted for 52 per cent of German arms exports in 2014–18. Germany delivered a total of 16 submarines to six countries: Colombia, Egypt, Greece, Israel, Italy and South Korea. These deliveries accounted for 42 per cent of Germany's arms exports in 2014–18.

From early 2016, a number of European states critical of Saudi Arabia's use of military force in Yemen successively announced severe restrictions on arms exports to Saudi Arabia. In 2018 Germany became the largest arms-exporting country to do so. In November 2018 Germany put a temporary stop on arms exports to Saudi Arabia including a stop on exports of German components for arms constructed elsewhere in Europe for export to Saudi Arabia.[36] Saudi Arabia accounted for 3.2 per cent of German arms exports in 2014–18, which gives an indication of the limited impact of these restrictions on the total volume of German arms exports. When the November ban was imposed, the most significant outstanding orders for German exports of major arms to Saudi Arabia were for patrol boats. Germany's stop on arms exports to Saudi Arabia led to criticism from other European countries that

[33] Human Rights Watch, 'World Report, 2018: Egypt, events of 2017', [n.d.]; Amnesty International, *Egypt: How French Arms Were Used to Crush Dissent* (Amnesty International: London, Sep. 2018); and Iddon, P., 'Controversial French and German arms sales to the Middle East in spotlight', New Arab, 29 Jan. 2019. On the armed conflict in Egypt see chapter 2, section V, in this volume.

[34] Iddon (note 33); and France 24, 'France rejects Amnesty criticism of arms exports to Egypt', 18 Oct. 2018.

[35] French Ministry of the Armed Forces, *Rapport au Parlement 2018 sur les exportations d'armements de la France* [Report to parliament on French arms exports, 2018] (French Ministry of the Armed Forces: Paris, June 2018).

[36] For further detail see chapter 10, section IV, in this volume.

Germany was hindering their arms sales to Saudi Arabia. For example, the UK complained that the German position hampered the finalization of a contract between the UK and Saudi Arabia for 48 Typhoon combat aircraft because the Typhoon is dependent on German components.[37]

Germany's stop on arms exports to Saudi Arabia also highlighted the potential impact of the different arms export policies of EU member states on future joint arms development and production programmes. France and Germany have agreed to jointly develop, among other major arms, a new tank and a sixth-generation combat aircraft, but in the latter half of 2018 disagreements emerged over which rules would be valid for exports of the new arms to third countries.[38] By the end of 2018, both countries made it clear that the existing Debré-Schmidt agreement from 1971, which allows each of France and Germany to export jointly developed weapons on their own terms, remained valid while they sought to establish new common export rules either bilaterally or for the wider EU.[39]

The United Kingdom

British arms exports increased by 5.9 per cent between 2009–13 and 2014–18. The UK was the sixth-largest exporter of major arms in 2014–18. It exported 59 per cent of its major arms to the Middle East, the vast bulk of which was made up of deliveries of combat aircraft to Saudi Arabia and Oman. Aircraft, primarily combat aircraft, were the main major arms exported by the UK, accounting for 62 per cent of British arms exports in 2014–18 (see table 5.5).

In 2014–18 Saudi Arabia accounted for 44 per cent of total British arms exports, compared with 41 per cent in 2009–13. As in Germany, there was significant opposition in the UK to arms exports to Saudi Arabia, especially as arms supplied by the UK were used in the war in Yemen.[40] Despite this criticism, the UK continued to deliver arms to Saudi Arabia in 2018 and tried to increase sales. In March 2018 the British Government signed a memorandum of intent with Saudi Arabia for a possible sale of 48 Typhoon combat aircraft.[41] Qatar, which has had hostile relations with Saudi Arabia since mid 2017, ordered 24 Typhoons in 2017.

[37] Shalal, A., 'Berlin arms policy risks "German-free" European defense projects', Reuters, 4 Mar. 2019.

[38] Sprenger, S., 'Export constraints emerge as sticking point for future German-French combat aircraft', *Defense News*, 28 Oct. 2018; and Sprenger, S., 'Europe's next-gen fighter jet is stuck in the bickering phase', *Defense News*, 7 Nov. 2018.

[39] *Der Spiegel*, 'Deutsch-französisches Geheimpapier regelt Waffenexport neu' [German–French secret paper reorganizes arms exports], 15 Feb. 2019. For further detail on efforts to establish new common export rules see chapter 10, section IV, in this volume.

[40] Chuter, A., 'UK-supplied precision weapons prove popular in Saudi-led Yemen campaign', *Defense News*, 17 Oct. 2016. For further detail see chapter 10, section IV, in this volume.

[41] Mance, H. and Hollinger, P., 'Saudi moves towards buying 48 Typhoon fighters from BAE', *Financial Times*, 9 Mar. 2018; and Shalal (note 37).

China

China's exports of major arms rose by 195 per cent between 2004–2008 and 2009–13, but between 2009–13 and 2014–18 they increased by only 2.7 per cent. Whereas the volume of China's arms exports appears to have reached a plateau, the number of countries to which it delivers major arms has continued to grow significantly, even in 2014–18. China delivered major arms to 53 countries in 2014–18, an increase from 41 in 2009–13 and 32 in 2004–2008.

In 2014–18 Asia and Oceania accounted for 70 per cent of Chinese arms exports, Africa for 20 per cent, the Middle East for 6.1 per cent, and the Americas for 4.0 per cent. Pakistan was the main recipient (37 per cent) in 2014–18, as it has been for all the five-year periods since 1991, followed by Bangladesh (16 per cent) and Algeria (11 per cent). China supplied relatively small volumes of major arms to a wide variety of countries: 39 of the 53 recipients in 2014–18 each accounted for less than 1.0 per cent of total Chinese exports.

China's arms exports are limited by the fact that many countries—including four of the top 10 arms importers in 2014–18 (India, Australia, South Korea and Viet Nam) as well as almost all European countries—have not and are highly unlikely (at least for the foreseeable future) to procure Chinese weapons for political reasons. Nonetheless, rapid improvements in Chinese military technology have opened up opportunities for arms export growth, including exports to new customers. These technological developments have occurred in all categories of major arms, but perhaps the most notable are the developments in UCAVs: by 2014–18 China had become the largest exporter in this niche market by a wide margin. Whereas China exported 10 UCAVs to two countries in 2009–13, in 2014–18 it exported a total of 153 to 13 countries. In contrast, the USA delivered three UCAVs in 2009–13 and five in 2014–18. In both periods all the deliveries were to the UK. Iran delivered 10 UCAVs to Syria in 2014–18, while the UAE delivered 2 to Algeria. Most of China's UCAV deliveries in 2014–18 went to countries in the Middle East, where the other main producer, the USA, has been reluctant to sell its UCAVs.[42]

Other arms suppliers

Countries outside of Europe and North America play a small role in international exports of major arms: in 2014–18 they accounted for 13 per cent of total exports and 11 per cent in 2009–13. Eight of the top 25 arms-exporting countries in 2014–18 were outside Europe or North America: China, Israel, South Korea, Turkey, the UAE, Australia, South Africa and Brazil (in order

[42] Tabrizi A. B. and Bronk, J., *Armed Drones in the Middle East: Proliferation and Norms in the Region*, Occasional Paper (Royal United Services Institute: London, Dec. 2018).

of export volume). Of these countries, only China and Israel were among the top 10 exporters of major arms.

Israel's arms exports increased by 60 per cent between 2009–13 and 2014–18—the biggest increase among the 10 largest exporters globally. Israel has been among the top 15 arms exporters for several decades. Israel delivered major arms to at least 37 countries in 2014–18. However, 46 per cent of its arms exports went to India.

Several countries outside of Europe and North America have adopted a policy of investing in their local arms industries to become more independent from foreign arms suppliers, as a perceived tool for industrial development. Such policies often include the objective to increase arms exports. For example, in 2018 South Korea created a Defense Export Promotion Center to increase arms exports in line with its view that the arms industry is a 'growth engine' of the national economy.[43] Turkey has a national development policy, Vision 2023, in which it has a stated target of increasing its arms export revenues to a level that would put it on a par with countries such as Israel.[44] Australia launched a Defence Export Strategy in January 2018 with the aim of becoming one of the top 10 exporters of military equipment by 2028.[45]

Arms exports by South Korea and Turkey rose sharply between 2009–13 and 2014–18, by 94 per cent and 170 per cent, respectively. In 2014–18 South Korea delivered major arms to several European states—Finland, Norway and the UK—for the first time. In the same period, Turkey increased its arms exports to other states in the Middle East.

Generally speaking, a policy of ambitious arms export growth is difficult to implement in the long term, particularly as recent history has shown that arms exports by smaller exporters can fluctuate significantly. For example, Sweden was the 15th-largest arms exporter in 2014–18, having been the seventh-largest in 1999–2003, and Swedish arms exports in 2014–18 were 57 per cent lower than they were in 1999–2003. However, in 2019 Sweden will start to deliver some of the 36 Gripen combat aircraft ordered by Brazil, which may move Sweden up in the ranking of arms exporters over the next few years. Brazil itself was the 23rd-largest arms exporter in 2014–18, compared with 13th position in 1984–88 when Brazilian arms exports reached their highest level.

[43] Grevatt, J., 'South Korea launches military export agency', *Jane's Defence Industry*, Nov. 2018.

[44] *Defence Turkey*, 'Will Turkey hit the target of $25 billion set for the year 2023?', vol. 10, no. 65 (2015).

[45] Australian Department of Defence (DOD), *Defence Export Strategy* (DOD: Canberra, Jan. 2018).