

I. Developments in arms transfers, 2017¹

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The volume of international transfers of major arms in the five-year period 2013–17 was 10 per cent higher than in 2008–12.² This is a continuation of the steady upward trend that began in the early 2000s (see figure 5.1).

The highest volume of transfers in any five-year period covered by SIPRI data occurred in 1980–84. The volume of transfers declined after 1980–84, until in 2000–2004 it was only 56 per cent of the peak. The total for the latest five-year period, 2013–17, was 51 per cent higher than 2000–2004 and the highest total since 1989–93 (the five-year period most directly affected by the end of the cold war). However, the total volume for 2013–17 was still 33 per cent lower than the total for 1980–84.

Major supplier developments

SIPRI has identified 67 countries as exporters of major weapons in 2013–17. The five largest suppliers of arms during that period were the United States, Russia, France, Germany and China. Together, they were responsible for 74 per cent of the total volume of exports of major arms in 2013–17 (see table 5.1). The same five countries made up the top five in 2008–12, when they also accounted for 74 per cent of the total volume of exports. However, since the total volume of transfers increased between 2008–12 and 2013–17, the top five in 2013–17 exported 11 per cent more arms than in 2008–12. The rise was due to increased exports by the USA, France and China. The USA and Russia were by far the largest exporters in 2013–17, together accounting for 56 per cent of global exports—up from 52 per cent in 2008–12.

On the whole, countries outside North America and Europe play a small role in the global export of arms, accounting for only 12 per cent of the total volume of exports of major weapons in 2013–17. Of the top 25 arms-exporting

¹ Except where indicated, the information on arms deliveries and contracts referred to in this chapter is taken from the SIPRI Arms Transfers Database, Mar. 2018. The database contains data on transfers of major weapons between 1950 and 2017. SIPRI data on arms transfers refers to actual deliveries of major weapons, including sales, production under licence, aid, gifts and leases. SIPRI uses a trend-indicator value (TIV) to compare the data on deliveries of different types of weapon and to identify general trends. TIVs give an indication only of the volume of international arms transfers—based on an assessment of the arms' capabilities—and not of their financial values. For a definition of 'major weapons' and a description of the TIV and its calculation see box 5.1. The figures in this chapter may differ from those in previous editions of the SIPRI Yearbook because the Arms Transfers Database is updated annually.

² Since year-on-year deliveries can fluctuate, SIPRI compares consecutive multi-year periods—normally 5-year periods—to provide a more stable measure for trends in transfers of major weapons. A 5-year moving average is used to measure trends in transfers over long periods.

Table 5.1. The 50 largest suppliers of major weapons, 2013–17

The table lists countries that exported major weapons in the 5-year period 2013–17. Ranking is according to 2013–17 total 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		Supplier	Volume of exports (TIV, millions)		Share (%), 2013–17	Change (%), compared with 2008–12
2013–17	2008–12 ^a		2017	2013–17		
1	1	United States	12 394	50 062	34	25
2	2	Russia	6 148	31 722	22	-7.1
3	4	France	2 162	9 706	6.7	27
4	3	Germany	1 653	8 469	5.8	-14
5	5	China	1 131	8 312	5.7	38
6	6	United Kingdom	1 214	6 952	4.8	37
7	7	Spain	814	4 262	2.9	12
8	10	Israel	1 263	4 248	2.9	55
9	9	Italy	660	3 590	2.5	13
10	11	Netherlands	1 167	3 101	2.1	14
11	8	Ukraine	240	2 481	1.7	-26
12	15	South Korea	587	1 784	1.2	65
13	13	Switzerland	186	1 322	0.9	-11
14	12	Sweden	83	1 256	0.9	-53
15	21	Turkey	244	1 164	0.8	145
16	14	Canada	87	1 095	0.8	-18
17	16	Norway	134	862	0.6	14
18	20	Belarus	23	653	0.4	12
19	22	Australia	97	469	0.3	15
20	36	Czech Republic	110	448	0.3	467
21	17	South Africa	74	356	0.2	-51
22	38	United Arab Emirates	72	319	0.2	320
23	24	Finland	58	313	0.2	-5.7
24	23	Brazil	45	279	0.2	-20
25	29	Portugal	56	253	0.2	74
26	28	Jordan	77	242	0.2	36
27	53	Indonesia	102	196	0.1	2 078
28	42	India	56	189	0.1	278
29	26	Poland	3	184	0.1	-12
30	46	Bulgaria	-	166	0.1	337
31	31	Romania	-	108	0.1	-2.7
32	18	Uzbekistan	-	102	0.1	-84
33	30	Singapore	-	98	0.1	-32
34	19	Belgium	12	97	0.1	-84
35	27	Austria	22	91	0.1	-49
36	34	Denmark	12	89	0.1	-4.3
37	25	Iran	10	88	0.1	-63
38	35	Serbia	2	81	0.1	-12
39	52	Slovakia	22	51	0	292

Rank		Supplier	Volume of exports (TIV, millions)		Share (%), 2013–17	Change (%), compared with 2008–12
2013–17	2008–12 ^a		2017	2013–17		
40	..	Hungary	–	41	0	..
41	..	Ireland	–	39	0	–63
42	..	Greece	30	30	0	..
43	..	Egypt	–	30	0	..
44	33	Chile	0	20	0	–80
45	39	New Zealand	4	17	0	–77
46	..	Georgia	7	14	0	..
47	50	Kyrgyzstan	5	14	0	0
48	47	Brunei Darussalam	–	12	0	–50
49	..	Sudan	–	11	0	..
50	61	Colombia	10	10	0	..
	..	17 others	30	112	0.1	..
		Total	31 106	145 623	..	10

.. = not available or not applicable; – = no deliveries.

Note: The SIPRI data on arms transfers relates to actual deliveries of major weapons. To permit comparison between the data on deliveries of different weapons and to identify general trends, SIPRI uses a TIV. This value is only 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 2008–12 differs from that published in *SIPRI Yearbook 2013* because of subsequent revision of figures for these years.

Source: SIPRI Arms Transfers Database, Mar. 2018.

countries in 2013–17, 17 are in North America and Europe, 3 are in Asia and Oceania, 3 are in the Middle East, 1 is in Africa and 1 is in South America (see table 5.1).³ This concentration of suppliers in the Euro-Atlantic region has been a feature of the entire period covered by the SIPRI Arms Transfers Database (i.e. 1950–2017). Many of the countries listed in the top 25 for 2013–17 also appeared there in previous periods.

The United States

The USA was the largest exporter of major weapons in 2013–17, a position it has occupied since the end of the cold war. Its arms exports in 2017 were the highest for a single year since 1998, although the contracts for most of these deliveries were signed several years ago.

The USA accounted for 34 per cent of the global volume of deliveries in 2013–17, compared with 30 per cent in 2008–12. Its arms exports increased by 25 per cent between 2008–12 and 2013–17, further widening the gap between the USA and all other arms exporters. In 2013–17 US arms exports

³ For further detail on SIPRI's regional coverage see the 'regional coverage' page on the SIPRI website.

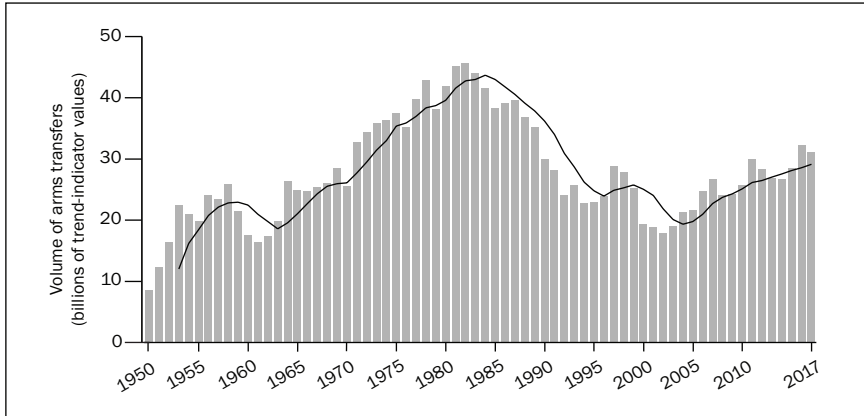


Figure 5.1. The trend in international transfers of major weapons, 1950–2017

Note: The bar graph shows annual totals and the line graph shows a 5-year moving average (plotted at the last year of each 5-year period). See box 5.1 for an explanation of the SIPRI trend-indicator value.

Source: SIPRI Arms Transfers Database, Mar. 2018.

were 58 per cent higher than those of Russia—the second largest arms exporter for that period. In 2008–12 the USA’s arms exports were only 17 per cent higher than Russia’s.

States in the Middle East accounted for 49 per cent of US arms exports in 2013–17, followed by states in Asia and Oceania (33 per cent), Europe (11 per cent), the Americas (4.8 per cent) and Africa (2.2 per cent; see table 5.2).

The USA delivered major weapons to at least 98 states in 2013–17, a significantly higher number of export destinations than any other supplier. It is also likely that the USA delivered a small number of light armoured vehicles to rebel forces in Syria in 2017. Of the world’s 50 largest arms importers in 2013–17, only 7 did not receive or place orders for major arms from the USA during that period. By far the main recipient of US arms in 2013–17 was Saudi Arabia, accounting for 18 per cent of US arms exports. US arms exports to Saudi Arabia increased by 448 per cent between 2008–12 and 2013–17. The flow of US weapons to that country is likely to remain high for at least five more years due to large outstanding orders, including for 154 F-15SA combat aircraft (deliveries of which began in 2016). US arms supplies to Saudi Arabia led to calls in the US Congress in 2016 and 2017 for restrictions on arms supplies to Saudi Arabia, in response to Saudi Arabian military operations in Yemen (launched in 2015), which have caused many civilian casualties and were considered to be indiscriminate.⁴ However, a small majority in the US Congress supported the US Government’s decisions to allow continued

⁴ On the conflict in Yemen see chapter 2, section V, in this volume.

deliveries under existing orders and to agree new orders that may surpass those signed in recent years.⁵

US arms exports to long-standing allies sometimes fluctuate based on the demand these countries have for arms. For example, US exports to Greece (a member of the North Atlantic Treaty Organization, NATO) fell by 79 per cent between 2008–12 and 2013–17 due to cuts in Greece's arms procurement after 2009, as part of austerity measures to deal with a severe economic crisis. In other cases, arms transfers are used as a tool within US foreign policy to forge new strategic partnerships. As part of its efforts to offset China's growing influence in Asia, for example, the USA has been strengthening its ties with India: its arms deliveries to India rose by 557 per cent between 2008–12 and 2013–17. The USA has also started to increase its security cooperation with Viet Nam in recent years. In 2017 it delivered one large patrol ship to Viet Nam as aid—the first US transfer of major arms to that country.

The USA exports a wide variety of weapon types. Aircraft, and in particular combat aircraft, account for a large proportion of these exports: 56 per cent in 2013–17, with the USA delivering 200 combat aircraft. These deliveries included a total of 50 F-35 combat aircraft, of which 12 were delivered to the United Kingdom, 10 to Norway, 9 each to Israel and Italy, 6 to Japan and 2 each to Australia and the Netherlands. The USA also delivered 30 F-15SG combat aircraft to Saudi Arabia and 16 to Singapore. By contrast, the volume of US exports of military ships is relatively modest. In 2013–17, for example, Germany, Spain and the Netherlands all exported a larger volume of military ships than the USA.

Russia

Russia's exports of major weapons decreased by 7.1 per cent between 2008–12 and 2013–17, while its share of total global exports fell from 26 to 22 per cent. The decrease was largely due to reductions in deliveries to some of its main recipients. Deliveries to Algeria and China, for example, continued throughout 2013–17 but were at lower levels than in 2008–12. Weapons remain on order from Russia for both countries. In addition, while Russia made significant deliveries to Venezuela in 2013, it made no arms exports to that country in the years 2015–17 as Venezuela's economy slipped deeper into crisis.⁶

Russia has fewer arms export destinations than the USA. During 2013–17 Russia delivered weapons to 47 states and to rebel forces in Ukraine. The bulk of Russian arms exports, 68 per cent, went to just four states: India accounted for 35 per cent, China for 12 per cent, and Viet Nam and Algeria

⁵ Svet, O., 'Why Congress supports Saudi arms sales', *National Interest*, 26 Sep. 2016; Depetris, D., 'Congress must act on huge Saudi arms sales', *Breaking Defense*, 6 June 2017; and Cooper, H., 'Senate narrowly backs Trump weapons sale to Saudi Arabia', *New York Times*, 13 June 2017.

⁶ On military spending, debt and transparency in Venezuela see chapter 4, sections II and III, in this volume.

Table 5.2. The 10 largest suppliers of major weapons and their destinations, by region, 2013–17

Figures are the percentage shares of the supplier's total volume of exports delivered to each recipient region. The shares may not add up to 100 because of the conventions of rounding. Percentages above 10 per cent have been rounded to the nearest whole number. For further detail on SIPRI's regional coverage see the 'regional coverage' page on the SIPRI website.

Recipient region	Supplier									
	USA	Russia	France	Germany	China	UK	Spain	Israel	Italy	Netherlands
<i>Africa</i>	2.2	13	7.5	8.4	21	1.2	1.4	1.1	12	1.9
North Africa	1.8	10	6.1	8.3	10	1.0	-	-	10	1.2
Sub-Saharan Africa	0.4	2.8	1.3	0.2	11	0.2	1.4	1.1	1.8	0.6
<i>Americas</i>	4.8	4.2	9.1	13	4.9	4.5	7.2	10	9.7	33
South America	1.4	3.8	4.6	4.6	4.7	0.8	2.9	3.7	6.7	4.9
<i>Asia and Oceania</i>	33	66	31	24	72	25	49	62	18	20
Central Asia	0.1	3.3	1.0	0.6	2.8	-	3.4	<0.05	1.2	1.5
East Asia	12	12	9.2	14	-	5.1	-	3.5	0.1	-
Oceania	7.0	-	4.3	0.6	-	0.3	34	0.2	4.5	-
South Asia	7.7	38	9.1	1.6	54	8.6	0.5	49	5.5	0.9
South East Asia	5.5	12	7.4	7.2	15	11	11	9.2	6.4	18
<i>Europe</i>	11	6.2	10	29	0.2	4.8	1.7	24	17	13
European Union	9.4	<0.05	10	28	0.2	4.7	1.7	11	15	13
<i>Middle East</i>	49	11	42	26	2.0	64	40	1.9	43	32
<i>Other</i>	<0.05	-	-	-	-	-	-	1.4	0.2	-

- = nil; <0.05 = between 0 and 0.05.

Source: SIPRI Arms Transfers Database, Mar. 2018.

for 10 per cent each. The other 44 recipients all accounted for less than 5 per cent. At the regional level, Asia and Oceania accounted for 66 per cent of Russian arms exports in 2013–17, Africa for 13 per cent, the Middle East for 11 per cent, Europe for 6.2 per cent and the Americas for 4.2 per cent.

West and Central European countries

Six West European countries—France, Germany, the UK, Spain, Italy and the Netherlands—were among the top 10 suppliers of major weapons in 2013–17. Together, they accounted for 25 per cent of the total volume of global arms transfers in that period. In addition to these six states, the top 25 arms exporters in 2013–17 included six other West and Central European states (see table 5.1). Ten of these 12 states are members of the European Union (EU). The combined total exports of all 28 EU member states was 6.7 per cent higher in 2013–17 than in 2008–12. However, the increase in the total volume of transfers meant that the EU member states' share of the global total fell from 29 per cent in 2008–12 to 27 per cent in 2013–17.

France. France was the third largest supplier of major weapons in 2013–17 and accounted for 6.7 per cent of the total volume. Its arms exports rose by 27 per cent between 2008–12 and 2013–17. It delivered arms to 81 countries in 2013–17. At the regional level, 42 per cent of its exports went to the Middle East, 31 per cent to Asia and Oceania, 10 per cent to Europe, 9.1 per cent to the Americas and 7.5 per cent to Africa. Egypt (25 per cent) was by far the largest recipient of French arms in 2013–17. This was due to the French Government's aggressive arms sales efforts, by which it made combat aircraft and warships that were in production for its own forces available for export and swift delivery to Egypt instead.⁷ Other major deals were also signed in 2013–17, including for 36 combat aircraft each for India and Qatar, and 12 submarines for Australia.

Germany. Germany was the fourth largest supplier of major weapons in 2013–17. Its exports decreased by 14 per cent between 2008–12 and 2013–17, and its share of the global total fell from 7.4 per cent to 5.8 per cent. In 2013–17 Germany supplied major arms to 60 states. The main recipients were other European states, accounting for 29 per cent of Germany's total, while 24 per cent went to states in Asia and Oceania, 13 per cent to the Americas and 8.4 per cent to Africa. Arms exports to the Middle East accounted for 26 per cent of German arms exports in 2013–17, despite significant political debate in Germany about supplying weapons to states in the region. Initially, this related to concerns about the use of weapons in repression.⁸ However,

⁷ Eshel, T., 'Paris, Cairo close to agreement on Rafale, FREMM deal worth 5–6 billion euros', *Defense Update*, 16 Jan. 2015; and Hoyle, C., 'Rafale exports take off with Egyptian delivery', *Flight Global*, 20 July 2015.

⁸ Wezeman, S. T. et al., 'Developments in arms transfers, 2014', *SIPRI Yearbook 2015*, pp. 413–14.

from 2015 the debate also included concerns about the use of weapons supplied by Germany in the conflict in Yemen, which resulted in early 2018 in increased restrictions on German arms exports to Saudi Arabia and other states involved in the conflict.⁹

The United Kingdom. Between 2008–12 and 2013–17 British arms exports increased by 37 per cent. Deliveries to Saudi Arabia, in particular of combat aircraft and their armaments, accounted for 49 per cent of these exports. British arms sales to Saudi Arabia were also subject to criticism. For example, in 2017 civil society groups applied to the High Court of England and Wales for a judicial review aimed at establishing whether the UK's arms exports to Saudi Arabia were lawful under its arms export regulations. The court dismissed the application and concluded that the British Government's decision to continue to license arms exports to Saudi Arabia 'was not irrational or unlawful'.¹⁰ The British Government did not change its arms export policy towards Saudi Arabia and warned that criticism of Saudi Arabia's use of weapons in Yemen was endangering expected large British arms deals with Saudi Arabia.¹¹

China

China's exports of major arms increased by 38 per cent between 2008–12 and 2013–17, while its share of global arms exports rose from 4.6 to 5.7 per cent. In 2013–17 Asia and Oceania accounted for 72 per cent of Chinese arms exports, Africa for 21 per cent, the Americas for 4.9 per cent and the Middle East for 2 per cent (a notably smaller share than any of the other top five arms exporters). China delivered major arms to 48 countries in 2013–17. Pakistan was the main recipient (35 per cent), as it has been for all five-year periods since 1991. Large increases in arms supplies to Bangladesh and Algeria accounted for much of the growth in total Chinese arms exports in 2013–17.

Other suppliers outside Europe and North America

Countries outside Europe and North America generally play a small role in international exports of major arms. Eight of the top 25 arms-exporting countries in 2013–17 were outside Europe or North America: China, Israel, the Republic of Korea (South Korea), Turkey, Australia, South Africa, the

⁹ German Government, 'Regierungspressekonferenz vom 22. Januar 2018' [Government press conference of 22 January 2018], 22 Jan. 2018.

¹⁰ The Queen (on the application of Campaign Against The Arms Trade) v the Secretary of State for International Trade and interveners, Case no. CO/1306/2016, High Court of England and Wales, Press summary, 10 July 2017. See also 'UK arms sales to Saudi Arabia are lawful, High Court rules', *Daily Telegraph*, 10 July 2017.

¹¹ Bond, D. and Hollinger, P., 'Criticism of Saudi Arabia "not helpful" for UK weapons sales', *Financial Times*, 25 Oct. 2017.

United Arab Emirates (UAE) and Brazil (in order of export volume). Of these countries, only China and Israel were placed in the top 10.

There were large increases in arms exports by Israel (55 per cent), South Korea (65 per cent) and Turkey (145 per cent) between 2008–12 and 2013–17. Israel has been among the top 15 arms exporters for decades. Israel's exports, which went to at least 42 countries in 2013–17, included missiles, radars and other sensors, and unmanned aerial vehicles. South Korea and Turkey have adopted a policy of investing heavily in their respective arms industries based on growing local demand and with the aim of becoming major exporters of weapons of all categories. In 2013–17 South Korea delivered major arms to European states for the first time: artillery to Poland and a support ship to the UK. Turkey notably increased its arms exports (mainly armoured vehicles) to other states in the Middle East in 2013–17.

Major recipient developments

In 2013–17 Asia and Oceania was the main recipient region of major weapons, accounting for 42 per cent of global imports, followed by the Middle East with 32 per cent. Deliveries to both regions increased between 2008–12 and 2013–17. Europe (11 per cent), Africa (7.2 per cent) and the Americas (7.1 per cent) accounted for much smaller shares of imports, and all three regions had lower imports in 2013–17 than in 2008–12.

In 2013–17 the top five arms importers—India, Saudi Arabia, Egypt, the UAE and China—accounted for 35 per cent of total arms imports (see tables 5.3 and 5.4). Of these, India and China were among the top five importers in both 2008–12 and 2013–17.

Africa

Between 2008–12 and 2013–17 arms imports by African states decreased by 22 per cent. The three largest importers in Africa in 2013–17 were Algeria (52 per cent of African arms imports), Morocco (12 per cent) and Nigeria (5.1 per cent). The main arms suppliers to Africa were Russia, China and the USA.

In 2013–17 Russian arms exports to Africa fell by 32 per cent compared with 2008–12. Despite the decrease, Russia remained the largest supplier to Africa, accounting for 39 per cent of total imports to the region. Algeria received 78 per cent of Russia's arms exports to Africa in 2013–17.

China's arms exports to Africa rose by 55 per cent between 2008–12 and 2013–17, and its share of total African arms imports increased from 8.4 per cent to 17 per cent. A total of 22 sub-Saharan African countries procured major arms from China in 2013–17, and China accounted for 27 per cent of sub-Saharan African arms imports, compared with 16 per cent

Table 5.3. The 50 largest recipients of major weapons, 2013–17

The table lists countries and non-state actors that imported major weapons in the 5-year period 2013–17. Ranking is according to 2013–17 total imports. 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		Recipient	Volume of imports (TIV, millions)		Share (%), 2013–17	Change (%), compared with 2008–12
2013–17	2008–12 ^a		2017	2013–17		
1	1	India	3 358	18 049	12	24
2	9	Saudi Arabia	4 111	14 805	10	225
3	21	Egypt	2 355	6 573	4.5	215
4	10	United Arab Emirates	848	6 370	4.4	51
5	2	China	1 117	5 786	4.0	-19
6	8	Australia	1 806	5 558	3.8	7.5
7	5	Algeria	905	5 414	3.7	0.8
8	17	Iraq	712	4 928	3.4	118
9	3	Pakistan	710	4 147	2.8	-36
10	26	Indonesia	1 196	4 014	2.8	193
11	19	Viet Nam	690	3 990	2.7	81
12	11	Turkey	410	3 539	2.4	-14
13	4	South Korea	918	3 239	2.2	-50
14	7	United States	547	2 930	2.0	-44
15	41	Taiwan	493	2 846	2.0	261
16	59	Oman	783	2 546	1.7	655
17	36	Israel	528	2 474	1.7	125
18	16	United Kingdom	899	2 260	1.6	-1.5
19	57	Bangladesh	320	2 239	1.5	542
20	40	Qatar	670	2 212	1.5	166
21	6	Singapore	428	2 149	1.5	-60
22	37	Italy	794	2 043	1.4	111
23	32	Azerbaijan	279	1 907	1.3	55
24	18	Japan	500	1 805	1.2	-19
25	13	Venezuela	-	1 533	1.1	-40
26	28	Canada	295	1 470	1.0	14
27	65	Kuwait	113	1 435	1.0	488
28	15	Greece	56	1 402	1.0	-44
29	44	Thailand	310	1 309	0.9	93
30	12	Morocco	351	1 288	0.9	-52
31	63	Kazakhstan	209	1 133	0.8	308
32	55	Finland	100	1 110	0.8	208
33	39	Jordan	386	1 104	0.8	26
34	22	Afghanistan	250	1 064	0.7	-48
35	43	Mexico	218	1 041	0.7	53
36	29	Myanmar	167	1 024	0.7	-20
37	30	Brazil	103	882	0.6	-31
38	31	Poland	197	872	0.6	-30
39	50	Turkmenistan	75	820	0.6	96

Rank		Recipient	Volume of imports (TIV, millions)		Share (%), 2013–17	Change (%), compared with 2008–12
2013–17	2008–12 ^a		2017	2013–17		
40	20	Norway	361	749	0.5	-65
41	91	Philippines	271	744	0.5	691
42	14	Malaysia	187	700	0.5	-72
43	71	Peru	64	668	0.5	312
44	79	Russia	34	663	0.5	360
45	38	Colombia	102	651	0.4	-33
46	27	Spain	72	604	0.4	-54
47	33	Netherlands	35	556	0.4	-52
48	52	Nigeria	26	536	0.4	42
49	74	Belarus	145	491	0.3	221
50	45	Sudan	54	462	0.3	-31
..	..	153 others	1 556	9 488	6.7	..
		Total	31 106	145 623	..	10

.. = not available or not applicable; - = no deliveries.

Note: The SIPRI data on arms transfers relates to actual deliveries of major weapons. To permit comparison between the data on deliveries of different weapons and to identify general trends, SIPRI uses a TIV. This value is only 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 2008–12 differs from that published in *SIPRI Yearbook 2013* because of subsequent revision of figures for these years.

Source: SIPRI Arms Transfers Database, Mar. 2018.

in 2008–12. In North Africa, China became an important supplier to Algeria in 2013–17, with deliveries including three frigates and artillery.

The USA accounted for 11 per cent of arms exports to Africa in 2013–17. Most of its exports went to Morocco (63 per cent of US exports to Africa). Other US transfers to Africa were typically small batches of weapons, often supplied as aid, including eight helicopters for Kenya and five for Uganda.

States in sub-Saharan Africa received 32 per cent of total African imports in 2013–17. The top five arms importers in sub-Saharan Africa were Nigeria, Sudan, Angola, Cameroon and Ethiopia. Together, they accounted for 56 per cent of arms imports in the subregion. Nigeria's arms imports grew by 42 per cent between 2008–12 and 2013–17. Major arms play an important role in the military operations by sub-Saharan African states. However, due to a lack of resources, sub-Saharan African states typically procure small numbers of older or less-advanced types of major weapons. Kenya, for example, which has a high level of internal political violence and has been fighting al-Shabab on its own territory and in Somalia since 2011, acquired 13 transport helicopters, 2 second-hand combat helicopters, 65 light armoured

Table 5.4. The 10 largest recipients of major weapons and their suppliers, 2013–17

Figures are the percentage shares of the recipient's total volume of imports received from each supplier. Only suppliers with a share of 1 per cent or more of total imports of any of the 10 largest recipients are included in the table. Smaller suppliers are grouped together under 'Others'. Figures may not add up to 100 because of the conventions of rounding. Percentages above 10 per cent have been rounded to the nearest whole number.

Supplier	Recipient									
	India	Saudi Arabia	Egypt	UAE	China	Australia	Algeria	Iraq	Pakistan	Indonesia
Australia	-	-	-	-	-	..	-	-	-	3.3
Belarus	-	-	-	-	2.9	-	-	0.8	-	-
Brazil	0.1	-	-	-	-	-	-	-	0.6	2.2
Bulgaria	-	0.1	<0.05	-	-	-	-	2.3	-	-
Canada	0.7	1.4	0.6	0.7	-	0.3	-	-	0.4	0.5
China	-	0.2	0.2	0.5	..	-	15	0.3	70	5.6
Czech Republic	-	-	-	-	-	-	-	4.0	-	0.1
France	4.5	3.6	37	13	14	6.9	0.5	-	0.4	6.8
Germany	0.7	1.8	6.3	2.1	0.7	0.7	13	0.6	0.1	7.3
Israel	11	-	-	-	-	-	-	-	-	-
Italy	0.2	1.5	0.3	6.6	-	2.9	6.5	3.4	3.5	0.4
Jordan	-	-	-	-	-	-	-	-	3.3	-
Netherlands	0.2	0.5	0.6	2.6	-	-	0.7	-	-	11
Russia	62	-	21	1.4	65	-	59	22	5.7	10
South Africa	0.2	0.1	<0.05	1.3	-	-	0.4	<0.05	-	-
South Korea	-	-	0.9	-	-	-	-	8.7	-	12
Spain	-	2.4	3.8	4.6	-	26	-	0.6	0.2	2.7
Sweden	-	1.1	-	3.4	-	0.4	1.9	-	0.5	0.2
Switzerland	0.4	1.8	-	-	3.9	0.9	-	-	0.9	3.4
Turkey	-	1.3	-	4.4	-	-	-	-	1.3	-
UAE	-	-	2.5	..	-	-	0.1	-	-	-
Ukraine	1.2	-	-	-	8.4	-	-	1.0	0.5	0.1
UK	3.2	23	-	1.0	2.8	0.3	1.3	-	0.3	17

	15	61	26	58	-	61	0.4	56	12	16
USA	-	-	-	-	-	-	-	-	-	-
Uzbekistan	0.1	0.6	0.3	0.4	1.8	0.7	0.6	0.9	0.1	1.0
Others										

.. = not available or not applicable; - = nil; <0.05 = between 0 and 0.05; UAE = United Arab Emirates.

Source: SIPRI Arms Transfers Database, Mar. 2018.

vehicles and a small number of self-propelled howitzers in 2013–17 for its armed and internal security forces.¹²

The Americas

Imports of major weapons by states in the Americas decreased by 29 per cent between 2008–12 and 2013–17. The USA was the largest importer of major weapons in the region in 2013–17.

Arms imports by South American states fell by 38 per cent between 2008–12 and 2013–17. In 2013–17 arms imports by South American states accounted for 43 per cent of transfers to the Americas. Russia accounted for 27 per cent of deliveries to South America, followed by the USA (15 per cent) and France (9.8 per cent). The overall fall in arms imports by South American states coincides with a generally low level of interstate tensions in the region in recent years and a decline in intrastate conflict.¹³ Nevertheless, demand for major arms varies significantly between states.

Venezuela. In the years following the 1999 change of political leadership in Venezuela, the country's relationships with its main arms suppliers at the time, the USA and several European states, essentially came to an end. Venezuela rebuilt its armed forces with weapons from Russia and China, and it was the largest importer in South America for the 10-year period 2008–17. However, following the economic crisis in Venezuela, which began in 2014, its imports of major arms fell to nil by 2017.¹⁴

Brazil. Arms imports by Brazil decreased by 31 per cent between 2008–12 and 2013–17. However, between 2008 and 2017 Brazil signed contracts for major arms that will be delivered in 2018–25. These include 5 submarines from France and 36 combat aircraft from Sweden.

Asia and Oceania

Five of the 10 largest recipients of major weapons in 2013–17 were in Asia and Oceania—India, China, Australia, Pakistan and Indonesia (see tables 5.3 and 5.4). States in the region received 42 per cent of global imports in 2013–17, compared with 46 per cent in 2008–12. Arms imports by states in Asia and Oceania increased by 1.8 per cent between the two periods. Russia accounted for 34 per cent of arms exports to the region, the USA for 27 per cent and China for 9.7 per cent. The main importers in Asia and Oceania are all aiming to improve their local arms development and production capabilities to reduce their dependence on foreign suppliers. These efforts have had varying degrees of success.

¹² On conflicts involving Kenya see chapter 2, section VI, in this volume.

¹³ See also chapter 2, section II, in this volume.

¹⁴ See also chapter 4, section II, in this volume.

India and Pakistan have been among the largest importers of arms for the past few decades. India was the world's largest importer of major arms in 2008–12 and 2013–17. Pakistan was the third largest arms importer in 2008–12 and the ninth largest in 2013–17. India and Pakistan have been in conflict with each other since their independence in 1947. The tensions between India and Pakistan are compounded by each side's relations with China, which has been a close ally of Pakistan since the 1960s and has long-standing border disputes with India. In the past few years tensions have flared on a regular basis.¹⁵ China's increasing assertiveness in the Indian Ocean region, backed by its growing capabilities to project military power, is an additional concern for India.¹⁶ In response, India has been modernizing and expanding its armed forces, largely through imports.

India. India accounted for 12 per cent of global arms imports in 2013–17. Between 2008–12 and 2013–17 India's imports increased by 24 per cent. Russia is the main supplier of major weapons to India and will remain so for at least the next few years as existing contracts are fulfilled. It accounted for 62 per cent of India's arms imports in 2013–17, and the volume of Russian arms exports to India in that period was almost the same as in 2008–12. However, Russia is facing stronger competition from other arms-exporting countries as India is seeking to diversify the sources of its arms imports. Between 2008–12 and 2013–17 arms imports from the USA increased by 557 per cent, making it India's second largest arms supplier. This development is part of the growing strategic partnership between the two countries, under which the USA has begun to supply India with advanced military equipment. In 2013–17 such supplies included long-range maritime patrol aircraft, strategic transport aircraft and combat helicopters. India's arms imports from Israel also increased (by 285 per cent) between 2008–12 and 2013–17, making it the third largest arms supplier to India.

As Russia's competitors seek to make greater inroads into the Indian market, India has also adopted a new 'Make in India' policy for arms acquisitions. The new policy replaces a previous policy that aimed to encourage the development and production of India's weapons by Indian state-owned arms-producing companies and the state military research organization, if necessary with foreign assistance or by way of production under licence.¹⁷ These Indian state-owned entities have a long history of working with Russian state-owned companies and state entities. The new 'Make in India'

¹⁵ Anderson, G. et al., '2017 annual defence report', *Jane's Defence Weekly*, 13 Dec. 2017, p. 27; Krishnan, A., 'Another armed conflict with India not out of the question, says China expert', *India Today*, 4 July 2017; and Patranobis, S., 'China blames Indian troops for Ladakh clash, PLA conducts drill to strike "awe"', *Hindustan Times*, 22 Aug. 2017. See also chapter 2, section III, in this volume.

¹⁶ Anderson et al. (note 15), p. 27.

¹⁷ Indian Government, Make in India website; US International Trade Administration, 'India: Defense', 27 July 2017; and Unnithan, S., 'Unmade in India', *India Today*, 27 Feb. 2017.

policy allows the Indian private sector more opportunities to compete for Indian orders for weapons. India's private sector generally has closer ties with private companies in countries other than Russia and has typically linked up with those companies when offering weapons for Indian requirements.

There is also growing resistance in India, in both political and military circles, to placing too heavy a reliance on Russia as a supplier of major weapons. This resistance is based on a perception that Russia is not—or will not be—able to meet expectations and promises. The various problems connected to the joint development and production by India and Russia of the Fifth Generation Fighter Aircraft (FGFA) combat aircraft (a derivative of the Russian Su-57 combat aircraft) and the Multi-role Transport Aircraft (MTA) are perhaps the clearest recent examples of this trend. The Indian Air Force had already voiced its dissatisfaction with the FGFA/Su-57 (of which 100–27 are planned to be acquired) by 2017, and in early 2018 reports emerged that it had suggested alternatives, including the USA's F-35.¹⁸ The MTA, which was to be designed mainly by Russia and produced in India by a state-owned company, was cancelled by India in 2017 after more than 15 years of discussions with Russia over the design. India has instead entered into negotiations for a Spanish transport aircraft to be produced by a private Indian company.¹⁹ Moreover, India signed no major contracts for weapons with Russia in 2017. Several major deals, which were expected to be signed by the end of 2017, have been repeatedly delayed. However, Russian officials seem unconcerned by the lack of progress as delays during negotiations of large and complex contracts are common. They also point to changes in India's procedures for procurement and claim that Indian arms procurement is cyclical. According to Russian officials, the dip in 2016–17 is no different from the dip in 2008–10, which came between peaks in 2004–2008 and 2010–12.²⁰

Pakistan. Pakistan has built up its arms industry over the years. However, it has been much less ambitious in its objectives than India. Rather than pursuing the indigenous development of advanced weapons, Pakistan's arms industry has remained focused on the production of foreign designs under licence or the assembly of weapons from foreign components. Since the 1960s these designs and components have mainly been of Chinese origin, although Pakistan does produce major weapons under licence from other countries.

¹⁸ Noronha, J., 'Fifth-generation fighter aircraft for IAF: a mirage or reality?', *Indian Defence Review*, vol. 32, no. 4 (Oct.–Dec. 2017); Raghuvanshi, V., 'Indian Air Force wants out of fighter program with Russia', *Defense News*, 20 Oct. 2017; and Shukla, A., 'Capability jump: IAF looks to buy fifth-generation F-35 fighter', *Business Standard*, 15 Feb. 2018.

¹⁹ Dominguez, G., 'Russia, India terminate MTA project, says report', *Jane's Defence Weekly*, 5 Apr. 2017, p. 14; and Menon, J. C., 'Indian Air Force: grand ambition', *European Security and Defence*, Feb. 2017, p. 39.

²⁰ *Kommersant*, [Those who criticize Iran today will fight for it], 7 Feb. 2018 (in Russian).

Recent examples include the licensed production of RBS-70 surface-to-air missiles from Sweden, and orders in 2017 for the licensed production of warships from the Netherlands and Turkey. Despite its continuing tensions with India and ongoing internal conflicts, Pakistan's arms imports decreased by 36 per cent between 2008–12 and 2013–17 and it accounted for 2.8 per cent of global arms imports in 2013–17. The bulk of Pakistan's arms imports in 2013–17 came from just two suppliers: China (70 per cent) and the USA (12 per cent).

The volume of China's arms exports to Pakistan in 2013–17 remained at roughly the same volume as in 2008–12. However, due to a decline in US arms exports to Pakistan in 2013–17, China's share of Pakistan's arms imports rose from 45 per cent in 2008–12 to 70 per cent in 2013–17.

In 2008–12 Pakistan received substantial military aid from the USA, including 28 combat aircraft and 5 maritime patrol aircraft. In 2013–17 it received far less US military aid, and its arms imports from the USA fell by 76 per cent. This coincided with growing criticism in the US Congress about what was considered to be a lack of effort by Pakistan to deal with terrorism. In 2016 the US Congress blocked Pakistan's planned procurement of eight combat aircraft, which was to be funded by US military aid.²¹ In 2017 the US Government accused Pakistan of harbouring terrorists, and in January 2018 it decided to suspend military aid to Pakistan.²²

Japan and South Korea. Arms imports by South Korea decreased by 50 per cent between 2008–12 and 2013–17 and those by Japan decreased by 19 per cent. However, Japan's tensions with China and South Korea's tensions with the Democratic People's Republic of Korea (DPRK, or North Korea) have been drivers behind major contracts for new weapons that started to be delivered or were ordered in 2013–17. Japan and South Korea have large arms industries, but remain partly dependent on arms imports. Both countries have turned to the USA for several types of advanced weapon. In 2013–17, for example, Japan started to receive the first batches of a total of 42 F-35 combat aircraft on order from the USA, while South Korea placed orders for 40 such aircraft. In the same period both countries ordered advanced air and missile defence systems from the USA. In 2013 and 2017 South Korea ordered long-range land-attack cruise missiles from Germany, the first of which were delivered in 2016. In 2017 Japan selected similar missiles from Norway.²³

China. China is becoming increasingly capable of producing (and exporting) its own advanced weapons, and its arms imports decreased by 19 per cent

²¹ 'US tells Pakistan it will have to fund F-16s itself', Reuters, 2 May 2016.

²² US Department of State, 'Department press briefing', 4 Jan. 2018.

²³ Reynolds, I., 'Japan approves record defense budget as North Korea looms', Bloomberg, 22 Dec. 2017; and McCurry, J., 'Japan boosts defence budget to record levels with eye on North Korea', *The Guardian*, 22 Dec. 2017.

between 2008–12 and 2013–17. Despite this fall, it was the world's fifth largest arms importer in 2013–17. Imports included advanced combat aircraft and air defence systems from Russia. There are a number of possible reasons behind China's decision to procure these weapons. It is possible that the procurement was aimed at safeguarding against potential delays in the development of China's own equivalent weapons. It is also possible that, at the time of the decision, China perceived that its level of development of advanced weapons remained behind that of Russia. However, China may now have reached or even surpassed Russia's development level in the field of combat aircraft. In late 2017 China announced that its J-20 'fifth generation' combat aircraft was operational—years ahead of the Russian equivalent.²⁴ If the reports prove to be correct, advanced combat aircraft may be another type of weapon that China no longer needs to import.

South East Asia. In the past decade tensions between China and several countries over maritime claims in the South China Sea have directly or indirectly driven up demand for major weapons in South East Asia.²⁵ Although the volume of imports by countries in the subregion did not differ significantly between 2008–12 and 2013–17, the volume more than doubled between 1997–2006 and 2008–17. A large proportion of the imports in the 10-year period 2008–17 were naval and air systems, indicating a strong focus on maritime security.

Internal security and conflicts in several South East Asian countries are other drivers of arms imports. In some supplier countries concerns about the use of such weapons have led to restrictions, as in 2017 in the case of Myanmar. The use of force by the military of Myanmar against the Rohingya people, which intensified in August 2017, received widespread international condemnation.²⁶ Some countries, including all EU member states and the USA, have long-standing arms embargoes on Myanmar.²⁷ However, other countries supply Myanmar with arms. In 2013–17 China accounted for 68 per cent of Myanmar's arms imports, followed by Russia with 15 per cent. Major ongoing arms deals in 2017 included the delivery to Myanmar of combat aircraft from China and Russia.

Europe

Arms imports by states in Europe decreased by 22 per cent between 2008–12 and 2013–17. Europe accounted for 11 per cent of total global arms imports in 2013–17. In the wake of the global financial crisis that started around 2008,

²⁴ Mizokami, K., 'China's J-20 stealth fighter is operational', *Popular Mechanics*, 29 Sep. 2017; and Majumdar, D., 'Is China's J-20 stealth fighter really "operational"?', *National Interest*, 10 Feb. 2018.

²⁵ For further detail see Wezeman, S. T., 'Arms flows to South East Asia', SIPRI Policy Paper, forthcoming 2018.

²⁶ See also chapter 2, section III, in this volume.

²⁷ On the EU arms embargo see chapter 10, section II, in this volume.

several European states were forced to scale down orders for arms imports, which led to reductions in arms deliveries several years later. However, rising tensions between Russia and other European states in 2013–17 became a driver of increased arms procurement in that period and several significant arms import contracts were concluded. These procurement decisions are not reflected in the trend for 2013–17 as the majority of deliveries were planned to take place after 2017. In 2017, for example, Poland, Romania and Sweden each decided to acquire long-range air and missile defence systems from the USA, and Lithuania ordered medium-range air defence systems with components from Norway and the USA. There was also a notable rise in the demand in Europe for long-range ground attack missiles. In 2013–17 Finland and Poland received air-launched cruise missiles (ALCMs) from the USA with a range of about 400 kilometres. In 2017 Poland ordered further ALCMs from the USA with a range of 1000 km.

The short-term trend in arms imports in Europe is likely to be heavily influenced by deals with the USA for F-35 combat aircraft for Italy (90 aircraft), the Netherlands (37), Norway (52) and the UK (138), which were agreed around 2007. A total of 37 of these aircraft were supplied in 2013–17 and the pace of delivery is planned to increase in the coming years. Denmark has started the process of ordering 27 F-35 combat aircraft, while several other European states, including Belgium and Germany, are considering ordering the F-35.²⁸

Despite the ongoing armed conflict in Ukraine, which started in 2014, arms imports by the Ukrainian Government remained small in the period 2013–17.²⁹ There were several reasons for this, including reluctance on the part of the USA and European arms-producing countries to supply weapons, Ukraine's high level of self-sufficiency in arms production, and a shortage of government funds.³⁰ Rebels in eastern Ukraine received tanks, armoured vehicles and portable anti-tank and surface-to-air missiles from Russia. However, a lack of reliable sources makes it impossible to provide accurate estimates of the volumes involved.

As in previous years, military clashes occurred between Armenia and Azerbaijan in 2017.³¹ The volume of major arms imported by Armenia in 2013–17 was relatively small, and all its imports came from Russia. Azerbaijan's arms imports increased by 55 per cent between 2008–12 and 2013–17. In both periods Azerbaijan's imports were 12 to 14 times higher than those

²⁸ Belga, 'Aankoop F-16's: "Regering niet verplicht te kiezen tussen Eurofighter en F-35"' [Acquisition of F-16s: 'Government not obliged to choose between Eurofighter and F-35'], *De Standaard*, 14 Feb. 2017.

²⁹ See also chapter 2, section IV, in this volume.

³⁰ Wezeman, S. T. and Kuimova, A., 'Ukraine and Black Sea security', SIPRI Background Paper, forthcoming 2018.

³¹ Sanamyan, E., 'Karabakh: more (relative) calm ahead in 2018?', Eurasianet, 12 Jan. 2018. See also chapter 2, section IV, in this volume.

of Armenia. Its main arms suppliers in 2013–17 were Russia (65 per cent) and Israel (29 per cent).

The Middle East

Most countries in the Middle East were directly involved in violent conflict in 2013–17, and arms imports by states in the region increased by 103 per cent between 2008–12 and 2013–17. During 2013–17, 31 per cent of arms transfers to the region went to Saudi Arabia, 14 per cent to Egypt and 13 per cent to the UAE. Iran, the second most populous state in the Middle East, accounted for only 1 per cent of the region's arms imports as it is subject to a United Nations arms embargo.³² The USA supplied 52 per cent of total arms transfers to the Middle East, followed by the UK (9.4 per cent) and France (8.6 per cent).

In 2013–17 many states in the Middle East acquired weapons that extended their military reach. For example, Egypt procured ALCMs from France; Saudi Arabia procured ALCMs from the UK and the USA; Kuwait procured ALCMs from the UK; Qatar procured ALCMs from France and ballistic missiles from China; and the UAE procured ballistic missiles from the USA. Saudi Arabia and the UAE used some of their newly acquired missiles in Yemen. The Houthi rebels in Yemen received imprecise ballistic missiles from Iran, which were fired into Saudi Arabia in 2017.

Saudi Arabia. Saudi Arabia was the world's second largest arms importer in 2013–17, with arms imports increasing by 225 per cent compared with 2008–12. In 2013–17, 61 per cent of Saudi Arabia's arms imports came from the USA and 23 per cent from the UK. Deliveries during this period included 78 combat aircraft, 72 combat helicopters, 328 tanks and about 4000 other armoured vehicles. By the end of 2017 many more weapons were on order, indicating continuing high levels of arms transfers for at least five more years. The previous peak in Saudi Arabia's arms imports occurred in 1995–99, when it was also the world's second largest arms importer. However, its arms imports in 2013–17 were 48 per cent higher than those in 1995–99. Unlike in the late 1990s, Saudi Arabia now uses the weapons it has imported in large-scale combat, in particular in Yemen.

Qatar. From around 2011 Qatar started to become increasingly assertive in its foreign policy towards the Middle East and North Africa and initiated a rapid build-up of its armed forces.³³ Arms imports by Qatar rose by 166 per cent between 2008–12 and 2013–17. The USA accounted for 67 per cent and Germany for 20 per cent of Qatari arms imports in 2013–17. Qatar signed several major deals in 2013–17, including for 24 combat aircraft from France in 2015; for 2 frigates and 4 corvettes from Italy in 2016; and for 36 combat aircraft

³² See chapter 10, section II, in this volume.

³³ Abdullah. J., 'Analysis: Qatar's foreign policy: the old and the new', Aljazeera, 21 Nov. 2014.

from the USA, 24 from the UK and 12 from France in 2017. The 2017 deals were concluded soon after tensions surfaced between Qatar and several Arab states, led by Saudi Arabia and the UAE.³⁴

Egypt. Arms imports by Egypt grew by 215 per cent between 2008–12 and 2013–17, and it became the world's third largest importer. The USA has been Egypt's main arms supplier since the late 1970s and accounted for 45 per cent of Egypt's arms imports in 2008–12. However, in 2013–15 it halted deliveries to Egypt of certain arms, in particular combat aircraft. In 2014 Egypt signed major arms deals with France, and deliveries started in 2015. As a result, France accounted for 37 per cent of Egypt's arms imports in 2013–17 and overtook the USA to become the main arms supplier to Egypt for that period. This was despite the fact that the USA ended its restrictions in 2015 and increased its overall arms supplies to Egypt by 84 per cent between 2008–12 and 2013–17.

Israel. Israel's arms imports increased by 125 per cent between 2008–12 and 2013–17. The USA accounted for 60 per cent of these arms imports. Major deliveries in 2013–17 included 9 F-35 combat aircraft (of a total order for 50). These aircraft significantly strengthen Israel's ability to strike targets throughout the Middle East. Germany delivered two submarines to Israel in 2013–17, and these accounted for 30 per cent of Israel's arms imports in that period. In 2017 Germany agreed to supply a further three submarines to Israel.

³⁴ Hollinger, P., 'BAE Systems signs off £5bn Qatar deal for 24 Typhoon fighters', *Financial Times*, 10 Dec. 2017.

Box 5.1. Methodology

The SIPRI Arms Transfers Database, which is available on the SIPRI website, contains information on deliveries of major weapons to states, international organizations and non-state armed groups from 1950 to 2017. A new set of data is published annually, replacing data in earlier editions of the SIPRI Yearbook or other SIPRI publications.

SIPRI's definition of 'transfer' includes sales, manufacturing licences, aid, gifts, and most loans or leases. The item must have a military purpose: the recipient must be the armed forces or paramilitary forces or intelligence agency of another country, a non-state armed group, or an international organization.

The SIPRI Arms Transfers Database only includes 'major weapons', which are defined as (a) most aircraft (including unmanned), (b) most armoured vehicles, (c) artillery over 100 millimetres in calibre, (d) sensors (radars, sonars and many passive electronic sensors), (e) air defence missile systems and larger air defence guns, (f) guided missiles, torpedoes, bombs and shells, (g) most ships, (h) engines for combat-capable aircraft and other larger aircraft, for combat ships and larger support ships, and for armoured vehicles, (i) most gun or missile-armed turrets for armoured vehicles, (j) reconnaissance satellites, (k) air refuelling systems, and (l) naval guns, missile launch systems and anti-submarine weapons.

In cases where a sensor, engine, turret, refuelling system or naval gun or other system (items *d*, *h*, *i*, *k* and *l*) is fitted on a platform (vehicle, aircraft or ship), the transfer only appears as a separate entry in the database if the item comes from a different supplier from that of the platform.

SIPRI has developed a unique system to measure the volume of transfers of major weapons using a common unit, the trend-indicator value (TIV). The TIV is intended to represent the transfer of military resources. Each weapon has its own specific TIV. Second-hand and second-hand but significantly modernized weapons are given a reduced TIV. SIPRI calculates the volume of transfers by multiplying the weapon-specific TIV with the number of weapons delivered in a given year. SIPRI TIV figures do not represent sales prices for arms transfers.