

12. International arms transfers

BJÖRN HAGELIN, MARK BROMLEY and
SIEMON T. WEZEMAN

I. Introduction

The SIPRI Arms Transfers Project identifies trends in international transfers of major conventional weapons using the SIPRI trend indicator.¹ The trend-indicator value represents an estimate of the volume of international transfers of major conventional weapons and military technology for foreign-licensed production of these weapons. Figure 12.1 shows that the trend for the volume of major arms transfers rose again in 2003 after a slight fall in 2002. This increase is not yet visible when measured as a five-year moving average. Section II of this chapter presents the dominant trends for the individual suppliers and recipients of conventional major weapons in 1999–2003 as well as developments concerning international arms embargoes in 2003.

The *SIPRI Yearbook 2003* concluded that hardly any major arms transfers in 2002 were directly related to the war on terrorism, because of its special characteristics.² Section III of this chapter suggests that the 2003 Iraq war may heighten international interest in certain types of major conventional weapons. Developments in national and international transparency in arms transfers in 2003 are described in section IV. The section also presents the SIPRI estimate of the financial value of the global arms trade in 1998–2002, derived from national reporting.³ This figure is different from the trend-indicator value and reflects what is often seen as the international arms trade. The main findings of the chapter are summarized in section V.

Appendix 12A presents the volume of transfers of major conventional weapons by recipient and supplier.⁴ Appendix 12B lists details of the equipment delivered and received. Appendix 12C outlines the sources and methods

¹ SIPRI data on arms *transfers* refer to actual deliveries of major conventional weapons. To permit comparison between the data on such deliveries of different weapons and identification of general trends, SIPRI uses a *trend-indicator value*. The SIPRI values are therefore only an indicator of the volume of international arms transfers and not of the actual financial values of such transfers. Thus they are not comparable to economic statistics such as gross domestic product or export/import figures. The method used in calculating the trend-indicator value is described in appendix 12C. A more extensive description of the methodology used, including a list of sources, is available on the SIPRI Arms Transfers Project Internet site at URL <<http://www.sipri.se/projects/armstrade/atmethods.html>>. The figures may differ from those given in previous SIPRI Yearbooks. The SIPRI arms transfers database is constantly updated as new data become available, and the trend-indicator values are revised each year.

² Hagelin, B. *et al.*, 'International arms transfers', *SIPRI Yearbook 2003: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2003), pp. 439–65.

³ The value of the arms *trade* refers to the financial values of arms transfers.

⁴ A breakdown of the volume of transfers of major conventional weapons by region and other groups of recipients and suppliers is available on the SIPRI Arms Transfers Project Internet site, at URL <http://projects.sipri.se/armstrade/at_gov_ind_data_html>.

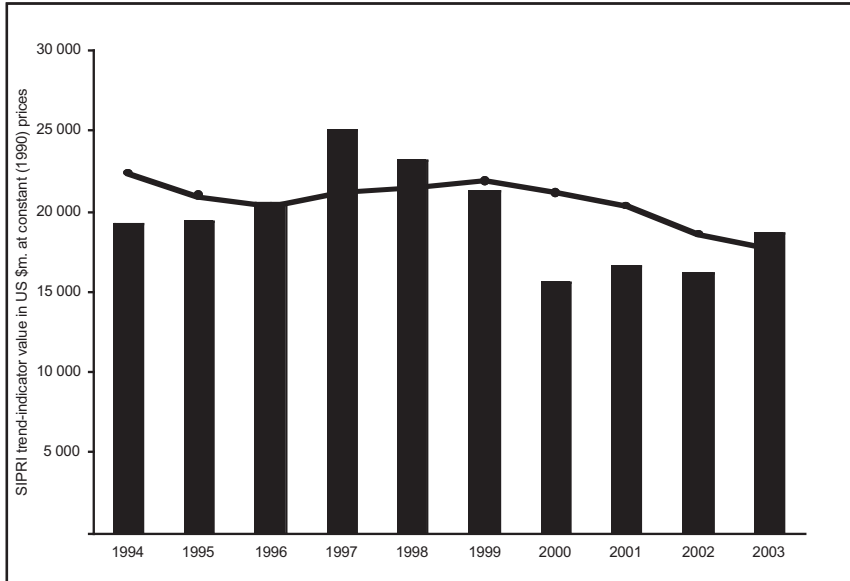


Figure 12.1. The trend in international transfers of major conventional weapons, 1994–2003

Note: The histogram shows annual totals and the line graph denotes the five-year moving average. Five-year averages are plotted at the last year of each five-year period.

used when compiling the arms transfers data, and appendix 12D discusses the suppliers of ballistic missiles.

II. The suppliers and recipients

The United States, Russia, France, Germany and the United Kingdom, the five largest suppliers of major conventional weapons in the five-year period 1999–2003, accounted for 81 per cent of all transfers. The trend for the USA is now increasing after several years of decline, and Russia's transfers continue to increase.

A strong critique of the export policies of the major arms suppliers was published in a joint report by Oxfam and Amnesty International in 2003.⁵ Governments were urged to agree an 'arms trade treaty' by 2006 to prevent abuses of international human rights and humanitarian law. The report recommends that the Group of Eight (G8) industrialized countries,⁶ together with as many additional countries as possible, make a determined effort to negotiate

⁵ Amnesty International and Oxfam, *Shattered Lives: The Case for Tough International Arms Control* (Colibri Press Ltd: Hackney, 2003). See also Amnesty International, *A Catalogue of Failures: G8 Arms Exports and Human Rights Violations*, Amnesty International INDEX IOR 30/003/2003 (Amnesty International: London, 19 May 2003), URL <<http://web.amnesty.org/library/Index/ENGIOR300032003?open&of=ENG-366>>.

⁶ The G8 is an informal group in which Canada, France, Germany, Italy, Japan, Russia, the UK and the USA as well as the European Union (EU) participate. The EU is represented by the President of the European Commission and by the leader of the country that holds the presidency of the Council of the European Union at the time of the G8 summit meeting.

such a treaty. Although the focus of the report is on small arms and light weapons (SALW), the criticisms may be seen as more general. Rules regarding the use or misuse of weapons in armed conflicts should not be concerned with the type of weapon. Major weapons and SALW are transferred to and used in most armed conflicts.⁷ Although the G8 members and some other governments may support such a treaty in principle, the influence of actors with a vested interest in continued arms transfers makes its conclusion unlikely.

The major suppliers

The United States remains the largest supplier for the five-year period 1999–2003, with 34 per cent of all deliveries. This is explained by a large volume of transfers in the early part of the period. The major US recipients in 1999–2003, accounting for 50 per cent of all US transfers, were, in rank order, Taiwan, Egypt, the UK, Greece, Turkey and Japan. In 2003, the USA accounted for almost 23 per cent of all transfers and, for the third year in succession, ranked second, after Russia.

In Europe, the USA introduced a new marketing policy in its attempt to sell F-16 combat aircraft to the Czech Republic. The Defense Security Cooperation Agency, the Department of Defense (DOD) foreign sales organization, instructed Lockheed Martin as well as the US armed services to offer after-sales support and training—not only for the F-16 aircraft but also for US-designed or -produced aircraft previously exported by the USA and now offered by competitors that might not be able to provide such support.⁸ Nonetheless, the Swedish JAS-39 Gripen combat aircraft was selected by the Czech Government in December 2003. Sweden offered 14 new, North Atlantic Treaty Organization (NATO)-compatible Gripen aircraft for delivery in 2005. They are already in production and were originally planned to enter the inventory of the Swedish Air Force.⁹ While the political decision has been made, in early 2004 the Czech Government was still negotiating the terms of the 10- to 15-year lease.

The US marketing policy towards the Czech Republic is one of several recent policy changes. Transfers that had been blocked before September 2001, mainly by action in Congress linked to human rights violations in the recipient country, have since received clearance for reasons related to the fight against terrorism.¹⁰ For example, US sanctions against India and Pakistan were

⁷ Hagelin, B. *et al.*, 'International arms transfers', *SIPRI Yearbook 2002: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2002), pp. 380–87; and Hagelin *et al.* (note 2), pp. 460–62.

⁸ Wall, R., 'Sold!', *Aviation Week & Space Technology*, 29 Sep. 2003, p. 43; and 'Tender conditions to be at Government Office, not notary public', CTK (Prague), 21 Oct. 2003, in Foreign Broadcast Information Service, *Daily Report—East Europe (FBIS-EEU)*, FBIS-EEU-2003-1021, 22 Oct. 2003.

⁹ 'Ny offert till Tjeckien' [New offer to the Czech Republic], *Svenska Dagbladet*, 5 Nov. 2003, p. 8.

¹⁰ Stohl, R., 'Post-Sept. 11 arms sales and military aid demonstrate dangerous trend', Center for Defense Information Terrorism Project, Center for Defense Information, Washington, DC, 14 Jan. 2003, URL <<http://www.cdi.org/terrorism/military-transfers-pr.cfm>>.

Table 12.1. Transfers of major conventional weapons from the 10 largest suppliers to the 38 largest recipients, 1999–2003
 Figures are trend-indicator values expressed in US \$m. at constant (1990) prices. Figures may not add up because of the conventions of rounding.

Recipient	Suppliers										Total	
	USA	Russia	France	Germany	UK	Ukraine	Italy	China	Netherlands	Canada		Other
Africa	163	1 993	177	21	3	539	38	81	—	—	1 983	4 998
Algeria	89	1 284	—	—	—	248	—	33	—	—	442	2 095
Angola	—	57	—	—	—	31	—	—	—	—	752	839
Other	74	652	177	21	3	260	38	48	—	—	789	2 064
Americas	1 355	391	695	471	1 365	11	506	—	342	739	853	6 728
Argentina	196	—	60	218	—	—	197	—	12	—	12	694
Brazil	198	—	535	128	24	—	76	—	—	16	162	1 139
Canada	127	—	18	92	995	—	125	—	—	..	26	1 382
Chile	24	—	24	—	131	—	8	—	310	—	74	571
Colombia	438	41	—	—	—	—	—	—	—	—	11	490
USA	..	—	—	25	195	—	66	—	—	695	300	1 282
Other	372	350	58	8	20	11	34	—	20	28	268	1 170
Asia	7 921	19 839	1 642	579	1 145	1 113	592	1 137	193	56	2 499	36 716
Bangladesh	48	331	—	—	—	—	14	41	16	—	164	611
China	31	11 237	46	—	10	410	14	..	—	—	54	11 800
India	10	6 223	192	88	37	135	24	—	102	—	1 035	7 843
Indonesia	29	274	121	74	226	2	—	—	21	—	24	769
Japan	1 789	—	5	1	—	—	—	—	—	—	—	1 795
Korea (South)	1 698	85	449	283	195	—	—	—	34	—	111	2 855
Malaysia	—	72	5	—	627	—	251	—	19	—	233	1 205
Myanmar	—	310	—	—	—	43	—	111	—	—	15	478
Pakistan	10	99	813	—	—	420	145	917	—	—	121	2 525
Singapore	858	16	3	—	—	—	36	—	—	—	371	1 282
Taiwan	3 070	—	—	—	—	—	—	—	—	6	9	3 084
Thailand	342	—	—	132	12	—	112	28	—	42	14	680
Other	36	1 192	8	—	38	103	—	40	—	8	348	1 789

Europe	13 108	1 024	2 819	516	256	339	2	606	139	1 937	21 825
Finland	1 298	—	19	99	—	—	—	1	—	62	1 476
Greece	2 311	499	190	427	52	58	—	415	40	108	4 409
Italy	1 213	—	43	6	8	..	—	..	—	1	1 270
Netherlands	676	—	4	238	—	6	—	..	—	32	954
Norway	325	—	12	6	65	—	—	91	—	194	694
Poland	342	4	—	404	—	2	—	—	—	176	925
Spain	721	—	138	44	96	54	—	—	7	7	1 066
Switzerland	498	—	102	—	—	—	—	—	—	53	652
Turkey	2 022	—	492	567	28	51	—	40	—	298	3 497
UK	2 691	—	—	466	..	—	—	4	29	68	3 256
Other	1 011	521	79	562	267	168	2	55	63	938	3 876
Middle East	5 802	2 951	1 216	699	277	77	200	41	186	693	14 771
Egypt	2 779	47	2	135	—	—	141	—	—	133	3 235
Iran	—	1 393	—	—	150	—	59	—	—	39	1 640
Israel	1 116	—	—	1 081	—	—	—	—	—	—	2 195
Jordan	142	—	11	—	442	—	—	—	—	111	752
Saudi Arabia	1 311	—	833	—	22	68	—	—	186	—	2 420
UAE	46	524	1 344	—	81	—	—	41	—	59	2 120
Yemen	—	517	1	—	—	—	—	—	—	302	821
Other	408	470	330	—	—	9	—	—	—	49	1 588
Oceania	1 247	—	—	135	476	98	—	44	64	781	2 845
Australia	1 161	—	—	135	476	98	—	—	52	476	2 394
Other	86	—	—	—	—	—	—	44	12	306	451
Other^a	—	—	5	—	—	—	—	—	—	105	110
Total	29 599	26 198	6 372	5 240	4 204	1 648	1 528	1 226	1 184	8 846	88 240

Note: The SIPRI data on arms transfers refer to actual deliveries of major conventional weapons. To permit comparison between the data on such deliveries of weapons and identification of general trends, SIPRI uses a *trend-indicator value*, which is an indicator of the volume of international arms transfers and not of the actual financial values of such transfers. Trend-indicator values are not comparable to economic statistics such as gross domestic product or export figures.

^a Includes the UN and NATO (as organizations, not as combinations of all member states) and unknown recipients.

Source: SIPRI arms transfers database.

lifted in late 2001 and US State Department policy in 2003 was to consider exports to these countries on a case-by-case basis.¹¹

In 2003, the US DOD also proposed changes to US export policy in order to gain more control over arms exports and to support its own and coalition activities in Iraq. The Directorate of Defense Trade Controls of the US Department of State established separate procedures in the spring of 2003 for exports to the USA's partners in the US-led coalition in Iraq.¹² These were similar to the procedures used for coalition partners in Afghanistan.¹³

The Review of Defense Trade Export Policy and National Security, initiated in October 2002, was intended to report its assessment of the effectiveness of US defence trade policies in 2003 and to identify the changes required to support US security and foreign policy goals.¹⁴ No such report was published in 2003. This reflects problems with the breadth of the mandate, as well as the effect of the war in Iraq. In the meantime, the General Accounting Office formulated a number of recommendations to facilitate the coordination of the potential release of advanced weapons and technologies.¹⁵

In addition to the main recipients of US major weapons (see table 12.1), India may also receive more military transfers from the USA—after the lifting of sanctions against India in 2001. India is negotiating an order for P-3C Orion anti-submarine warfare/marine patrol aircraft. The USA has allowed Israel to export equipment with US components or which was developed with some US financing, such as radars (see below). However, US–Indian military trade is not without complications because of the ongoing tensions between India and Pakistan (although these might decline after the bilateral rapprochement begun in 2004), India's traditionally strong reliance on Russian weapons and conflicting expectations in the USA and India.¹⁶ India's anxiety to avoid the consequences of any new US embargo is reflected in its insistence that US components of the British Hawk trainer aircraft be replaced by non-US components.¹⁷ At the same time, India seems prepared to accept US re-export condi-

¹¹ Svitak, A., 'US relaxes export rules for India, Pakistan', *Defense News*, 30 June 2003, p. 12.

¹² For details of the of the US-led coalition in Iraq, see chapter 2 in this volume.

¹³ Applications are handled separately and the goal is to process them within 48 hours. Gabelnick, T. and Stohl, R. (eds), *Challenging Conventional Wisdom: Debunking the Myths and Exposing Risks of Arms Export Reform* (Center for Defense Information: Washington, DC, June 2003), p. 9, available at URL <<http://www.cdi.org/document/search/displaydoc.cfm?DocumentID=1479&StartRow=1&ListRows=10>>. See also Svitak, A., 'Bush seeks more control over arms exports', *Defense News*, 31 Mar. 2003, p. 4; Svitak, A., 'Pentagon vs. State Department', *Defense News*, 7 Apr. 2003, p. 1; and US Department of State, 'Department of State to expedite export licences for Iraq coalition partners', Media note, Office of the Spokesman, Washington, DC, 26 Mar. 2003.

¹⁴ 'US review of defense trade export policy', Fact Sheet, Issued at the Prague North Atlantic Treaty Organization Summit, The White House, Office of the Press Secretary, Washington, DC, 21 Nov. 2002, URL <<http://usembassy-australia.state.gov/hyper/2002/1121/epf412.htm>>.

¹⁵ US General Accounting Office (GAO), *Defense Trade: Better Information Needed to Support Decisions Affecting Proposed Weapons Transfers*, GAO-03-694 (GAO: Washington, DC, July 2003), p. 22, URL <<http://www.gao.gov>>.

¹⁶ MacDonald, J. A., *Indo-US Military Relationship: Expectations and Perceptions* (Booz Allen Hamilton: Washington, DC, Oct. 2002).

¹⁷ Bedi, R., 'India close to signing Hawk trainer deal', *Jane's Defence Weekly*, 10 Sep. 2003, p. 10.

tions and controls in order to receive US technology.¹⁸ This may include the disclosure of its domestic deployment plans for weapons which it wants to acquire from the USA.¹⁹ US military interest in India may be explained not only by India's regional importance and the potential size of its market, but also by the prospects for reducing Russia's influence there.²⁰

Russia accounted for close to 30 per cent of global arms transfers in the period 1999–2003, which ranked it second only to the USA. China and India together received 67 per cent of all Russian deliveries in this period. Russia was the largest supplier in 2003, with 37 per cent of all deliveries—a 17 per cent increase over 2002, when it was also the largest supplier. China and India remained Russia's main markets, accounting for 35 and 39 per cent, respectively, of the total volume of Russian transfers in 2003.

While most combat aircraft development in Russia is carried out for foreign customers, Russia itself benefits from such work. Income from exports and results from foreign-funded development or upgrade of existing equipment provide Russia with the financial means and technology to develop its own advanced weapons. In 2003 the Russian Air Force received its first Su-27MK combat aircraft, using mainly technology developed with Chinese funding for Su-30MK aircraft for China.²¹ Similarly, Indian–Russian development and production cooperation gives India access to advanced Russian technology, supports India's arms industries and provides Russia with the financial resources to develop indigenous concepts. In general, Russia is trying to establish military–industrial and acquisition relations with a variety of countries, not least in Asia.²²

There is a widespread optimism among Russian export and defence officials that Russia will remain a large-scale arms supplier, although foreign analysts are not equally convinced (see appendix 11C).²³ Nikolai Moiseyev, the first deputy chief of Rosaviakosmos, the Russian air and space agency, estimated in 2003 that, if all plans for new aerospace sales and modernization contracts

¹⁸ Ratnam, G., 'India, US work to restore trust, ties', *Defense News*, 3 Nov. 2003, p. 1, 8; and Raghuvanshi, V., 'India, US boost technology ties', *Defense News*, 1 Dec. 2003, p. 29.

¹⁹ Raghuvanshi, V., 'India balks at US demand in weapons deal', *Defense News*, 1 Sep. 2003, p. 15; and US General Accounting Office (note 15).

²⁰ US–Indian and Russian–Indian relations are discussed in Joshi, N., 'India and Russia: enduring partnership', *India Quarterly*, vol. 58, no. 3 (July/Sep. 2002); Gaan, N. and Das, S., 'Indo-US relations towards a rapprochement: from post-cold war to post September 11', *India Quarterly*, vol. 18, no. 3 (July/Sep. 2002); and Gogoi, B., 'Military–technical collaboration between India and Russia: an overview of the post-Soviet period', *India Quarterly*, vol. 18, no. 4 (Oct./Dec. 2002). On India, see also the section below on the major recipients.

²¹ Butowski, P., 'Show debut for upgraded Su-27', *Jane's Defence Weekly*, 11 June 2003, p. 20.

²² See, e.g., 'Russian deputy prime minister outlines plans for overhaul of defense industry', ITAR-TASS (Moscow), 8 Nov. 2003, in Foreign Broadcast Information Service, *Daily Report—Central Eurasia (FBIS-SOV)*, FBIS-SOV-2003-1108, 10 Nov. 2003; 'Presidential Bulletin Report: Putin arrives in Malaysia', Interfax (Moscow), 4 Aug. 2003, FBIS-SOV-2003-0804, 5 Aug. 2003; 'Russian defense minister leaves for Seoul to discuss military cooperation', ITAR-TASS (Moscow) 9 Apr. 2003, FBIS-SOV-2003-0409, 10 Apr. 2003; 'India and Russia move to expand collaborative defense efforts', *Aviation Week & Space Technology*, 27 Jan 2003, p. 40; and Raghuvanshi, V., 'No arms sales in Russian–Indian accord', *Defense News*, 9–11 Dec. 2002, p. 12.

²³ Barrie, D., 'Lo and behold', *Aviation Week & Space Technology*, 11 Aug. 2003, pp. 50, 54; Pronina, L., 'Russia draws up new plan for re-armament', *Defense News*, 10 Mar. 2003, p. 20; and Komarov, A., 'Mixed fortunes', *Aviation Week & Space Technology*, 23 Feb. 2004, p. 52.

take place, the total contract value would be about \$5 billion.²⁴ The optimism about an increase in volume is related to access to new markets.²⁵ Such access could be assisted by export support activities following the example of other countries. For instance, in January 2004 Russia's Savings Bank (Sberbank) and the Russian Committee for Military and Technical Cooperation with Foreign States agreed to cooperate. Together, they will organize, service and provide finance for foreign military and technical cooperation, assist in foreign sales of military equipment and technologies, and consult with each other in order to coordinate banking services.²⁶

In contrast, operations in Iraq raised doubts over the efficiency of Russian arms and the competitiveness of weapons produced in Russia.²⁷ One analyst concludes that the remaining industrial potential may be used more efficiently through organizational changes that could also strengthen Russia's export potential.²⁸ Russian Vice-Premier Boris Alyoshin has recognized that because modern wars involve smart weapons Russia should develop and export such weapons.²⁹ In addition, Russian companies are more actively seeking to establish international cooperation. Rosoboronexport, the Russian arms export agency; Sukhoi, a leading Russian arms manufacturer; and European, mainly French, companies regard mutual cooperation as a counterweight to US technological dominance.³⁰ Russia has used European and Israeli avionics and electronics for some years for weapons for export. For instance, French systems have been selected for 18 Su-30MKM combat aircraft ordered by Malaysia in 2003, and French and Israeli systems are installed in Indian Su-30MKI combat aircraft. It is alleged that Russia is now also considering the use of foreign avionics and electronics in weapons procured for its armed forces.³¹

²⁴ 'Rosaviakosmos chief says Russian air industry has pulled out of its slump', ITAR-TASS (Moscow), 25 Aug. 2003, in FBIS-SOV-2003-0825, 26 Aug. 2003.

²⁵ Russia is investigating the potential for defence sales to Israel and to African states. See Sokolova, V., 'Russia: Putin, Israel's Sharon discuss sales of arms to Israel', ITAR-TASS (Moscow), 4 Nov. 2003, in FBIS-SOV-2003-1104, 5 Nov. 2003; 'Russian orientalist welcomes opening of Libyan markets', ITAR-TASS (Moscow), 20 Nov. 2003, in FBIS-SOV-2003-1120, 21 Nov. 2003; 'Russia: Kenya to become "new promising" market for Russian arms sales', ITAR-TASS (Moscow), 27 Oct. 2003, in FBIS-SOV-2003-1027, 28 Oct. 2003; and 'Russia: Arms exports in first half of 2003 overfulfilled by more than 30 percent', ITAR-TASS (Moscow), 4 Nov. 2003, in FBIS-SOV-2003-1104, 5 Nov. 2003.

²⁶ 'Russia's Sberbank in deal to help finance military exports', ITAR-TASS (Moscow), 23 Jan. 2004, in FBIS-SOV-2004-0123, 26 Jan. 2004.

²⁷ 'Russia: more on defense minister criticism of top brass', *Izvestiya* (Moscow), 19 Nov. 2003, in FBIS-SOV-2003-1119, 20 Nov. 2003. See chapter 10 in this volume.

²⁸ Dvorkin, V., 'Russia: Iraq war lessons for Russian military organizational development', *Yaderny Kontrol* (Moscow), 22 May 2003, pp. 125–30, in FBIS-SOV-2003-1021, 28 Oct. 2003. On Russia's defence industry restructuring see appendix 11C in this volume.

²⁹ 'Official says Russia to sell more smart arms systems in future', ITAR-TASS (Moscow), 29 Sep. 2003, in FBIS-SOV-2003-0929, 30 Sep. 2003; and 'Russia: Deputy PM Aleshin says defense industry to be reorganized in 2003', ITAR-TASS (Moscow), 8 Nov. 2003, in FBIS-SOV-2003-1108, 10 Nov. 2003.

³⁰ Ivanov, H., 'Russia and France beef up cooperation', *Jane's Defence Weekly*, 9 July 2003, p. 21.

³¹ Malaysia does not want to buy Israeli systems, for political reasons. Pronina, L., 'Malaysia's Air Force buys 18 Su-30 jets', *Moscow Times* (Internet edn), 20 May 2003, URL <<http://www.moscowtimes.ru/stories/2003/05/20/001.html>>; *Jane's All the World's Aircraft 2002–2003* (Jane's Information Group: Coulsdon, 2003); Prospect Investment, 'Fact sheet on Irkut, KHP and UMPO', Moscow, Mar. 2003, URL <<http://www.prospect.com.ru.html>>; and Ivanov, H., 'Malaysia sets \$1.4 bn deal for Russian fighters', *Jane's Defence Weekly*, 28 May 2003, p. 4.

While European Union (EU) security-related cooperation with Russia increased during the 1990s, and its ambitions widened, it has been argued that Europe has not developed a clear understanding of how Russia's role could be facilitated—especially within military security.³² Nor is there a wider understanding of how Russia might facilitate Europe's role. EU Military cooperation with Russia is largely lacking. However, the potential of Russian skills has been recognized by French companies, mainly in the field of aero-engines and by the European Aeronautic Defence and Space Company (EADS).³³ The latter will increase cooperation with non-European nations, including Russia, to avoid uncertainties over US policy and as a counterweight to US technological dominance.³⁴ Collaboration agreements between EADS and the Russian Academy of Sciences as well as with Rosaviakosmos were concluded in 2003. This has resulted *inter alia* in the opening of a joint engineering centre and a technology office in Moscow.³⁵

Not only Russia benefits from Russian arms transfers. Russia and Ukraine, the sixth largest supplier in 1999–2003, signed an agreement in 2003 to cooperate on military exports to third countries.³⁶ More generally, Russia has formalized arms transfer relations with some members of the Commonwealth of Independent States (CIS). Members of the Collective Security Treaty

³² Haukkala, H., 'A problematic "strategic partnership", part 2', ed. D. Lynch, Institute for Security Studies, *EU–Russian Security Dimensions*, Occasional Papers, no. 46 (ISIS, London, July 2003). In 2003 Russia and the EU signed an agreement allowing Russian scientists and engineers to participate in the EU's 6th Framework Programme 2002–2006 in the fields of basic research as well as technology development and demonstrations of earth observation, environment/climate and information sciences. 'World news roundup: Russia', *Aviation Week & Space Technology*, 10 Nov. 2003, p. 19; Moshes, A. (ed.), *Rethinking the Respective Strategies of Russia and the European Union*, Carnegie Endowment for International Peace (Carnegie Moscow Center: Moscow, 2003); and Lynch, D., 'Russia's strategic partnership with Europe', *Washington Quarterly*, vol. 27, no. 2 (spring 2004), pp. 99–118. On the Framework Programme, see chapter 9 in this volume.

³³ These plans are interesting in the light of the US military's interest (and that of the Advisory Group for Aerospace Research and Development, AGARD) in Soviet technology in the 1990s. Participation in AGARD international conferences was normally restricted to representatives from NATO member countries, although other participants could be invited when considered to have special relevant knowledge. The Russian institutions involved suggest a particular Western interest in Russian aero-engine technology, and at least 3 Russian institutes received US Air Force science and technology support. Komarov, A. and Taverna, M. A., 'Russia, France set more ties', *Aviation Week & Space Technology*, 13 Oct. 2003, p. 28; Betts, P., 'Europe "must speed plans for R&D defence body"', *Financial Times*, 5 Nov. 2003, p. 1; and Hagelin, B., 'US tapping of foreign science and technology for military purposes', unpublished working paper for the Managing European Technology: Defence and Competitiveness Issues Project funded by the EU under the Targeted Socio-Economic Research (TSER) programme, 1998–2000.

³⁴ Sparaco, P. and Taverna, M. A., 'Perched for recovery', *Aviation Week & Space Technology*, 10 Nov. 2003, pp. 26–27; and Ivanov, H., 'Russia and France beef up co-operation', *Jane's Defence Weekly*, 9 July 2003, p. 21.

³⁵ 'EADS moves into Moscow venture', *Jane's Defence Industry*, vol. 20, no. 12 (Dec. 2003), pp. 12–13; 'Science solidarity', *Aviation Week & Space Technology*, 20 Oct. 2003, p. 13; Komarov, A., 'EADS East', *Aviation Week & Space Technology*, 11 Aug. 2003, p. 54; 'Franco/Russo UAV deal', *Aviation Week & Space Technology*, 27 Oct. 2003, p. 11; and Blaeske, G., 'EADS head looks at UK, Russia markets, military use of Galileo system', *Sueddeutsche Zeitung*, 19 Aug. 2003, in Foreign Broadcasting Information Service, *Daily Report–West Europe (FBIS-WEU)*, FBIS-WEU-2003-0819, 21 Aug. 2003.

³⁶ 'Ukraine to seek own niche on Malaysian arms market', ITAR-TASS (Moscow), 6 Oct. 2003, in FBIS-SOV-2003-1006, 7 Oct. 2003; 'Azerbaijani daily notes Russian intent to supply weapons to FSU nations', *Zerkalo (Baku)*, 26 Aug. 2003, in FBIS-SOV-2003-0917, 22 Sep. 2003; and 'Round up', *Jane's Defence Weekly*, 6 Aug. 2003, p. 21.

Organization (Armenia, Belarus, Kazakhstan, Kyrgyzstan and Tajikistan) will receive Russian weapons under the same conditions as the Russian armed forces from 2004.³⁷ In addition, Russia will try to establish research and development (R&D) and manufacturing cooperation with these countries—which may also increase their transfers to Russia—as well as coordinating arms transfers to third countries (see appendix 11C).³⁸

Russia is reviewing its long-term policies on basic and critical military technologies and military–technological cooperation in order to better guarantee and secure its technological and defence industrial capabilities.³⁹ Part of the solution is to regulate what happens to Russian weapons after they have been transferred. Any modification or modernization of Soviet/Russian-designed systems should involve the original Russian company. If it does not, Russia will not supply blueprints or spare parts, and any warranties that may still be valid will become null and void. In short, Russian ‘commercial and intellectual property rights’ are to be respected.⁴⁰ An agreement on Russian intellectual property rights was signed with Israel in March 2003. Although the agreement is reported not to fulfil all of Russia’s expectations on royalty payments, Israel has agreed to involve Russian companies in all future Israeli exports and other contracts involving modernization of Russian equipment.⁴¹

Other suppliers

The USA and Russia together accounted for around 63 per cent of global arms transfers in 1999–2003. The next three largest suppliers—France, Germany and the UK—together accounted for 18 per cent, that is, just over half of the US volume.

France was the third largest supplier in the period 1999–2003, with 7 per cent of global deliveries. The major recipients, accounting for 47 per cent of French transfers in 1999–2003, were the United Arab Emirates (UAE), Saudi Arabia and Pakistan. France was the third largest supplier in 2003, with 9 per cent of all deliveries—mainly because of deliveries of missiles and helicopters. The volume of French transfers increased in 2003 by 32 per cent compared to 2002, when France was also the third largest supplier. However, this position is not secure. Dassault is looking for a partner to develop an export

³⁷ See also Hagelin, B., ‘Arms transfers to the South Caucasus and Central Asia compared, 1992–2002’, in Bailes, A. J. K. *et al.*, *Armament and Disarmament in the Caucasus and Central Asia*, SIPRI Policy Paper no. 3 (SIPRI: Stockholm, July 2003), pp. 21–31, available at URL <<http://editors.sipri.se/recpubs.html>>.

³⁸ ‘Russia may offer military products to Kyrgyzstan at preferential prices’, *Kabar News Agency* (Bishkek), 13 Nov. 2003, in FBIS-SOV-2003-1113; and ‘Moscow daily gives details of Russia, Armenia Military Cooperation Agreements’, *Izvestiya*, 13 Nov. 2003, in FBIS-SOV-2003-1114, 17 Nov. 2003.

³⁹ Pronina (note 23).

⁴⁰ Silent, J., ‘Visegrad Four Hind upgrade problems’, *Air Forces Monthly*, no. 183 (June 2003), p. 9.

⁴¹ Opall-Rome, B. and Pronina, L., ‘Israel, Russia establish intellectual property deal’, *Defense News*, 17 Mar. 2003, p. 28. This policy, and legislation on modernizations from the Soviet period, create problems for recipients, such as India and Ukraine, that wish to change supplier or perform such modernizations themselves. They might also create problems, e.g., for new NATO members. Forcing countries using Soviet/Russian-designed equipment to accept Russian control over modernization and access to the technology used might make Western suppliers refuse to supply advanced technology.

version of the Rafale combat aircraft because of the lack of domestic funding.⁴² The French Government was reportedly prepared to offer Singapore a share in the development of the radar for the Rafale, provided it agreed to purchase the aircraft.⁴³ Important future contracts for which France is bidding include Brazil's decision on combat aircraft in 2004.

To further increase the French uncertainties, in 2003 the government instructed arms suppliers not to offer products at prices below production cost in order to win contracts, because such deals oblige the state to cover the losses. One example was the 1993 order for 436 Leclerc tanks and armoured recovery vehicles (ARVs) from the UAE. They were sold for \$3.4 billion, resulting in a loss of \$1.2 billion. In 2002 France offered 393 Leclerc tanks and ARVs to Saudi Arabia for \$4.6 billion in what seems to have been another loss-making offer. In 2003 France changed the offer to 158 Leclerc tanks for \$3.4 billion, a price which seems more in line with production costs.⁴⁴ In addition to international competition forcing French prices down, the government instruction could make French weapons less competitive. In 2003 Portugal chose German submarines over French ones after the French producer increased its price by at least 15 per cent, presumably in accordance with the government instruction.⁴⁵

Germany accounted for roughly 6 per cent of international arms deliveries in 1999–2003, making it the fourth largest supplier for the period. Almost half of the volume was made up of deliveries to Israel, Turkey, the UK and Greece. Germany was also the fourth largest supplier in 2003, with a 170 per cent increase in volume over 2002, when it was the fifth largest supplier. Its position was achieved mainly by deliveries of second-hand equipment, some of which had hardly been used by German forces. Recent orders for new equipment include Eurofighter/Typhoon combat aircraft for Austria from 2007, and possibly also for Greece; and submarines to Portugal for delivery in 2008.

The UK ranked fifth in 1999–2003 with 5 per cent of all major arms transfers. The largest recipients were Canada, Malaysia and Australia, together accounting for 50 per cent of all British deliveries in 1999–2003. In contrast to France and Germany, the volume of British transfers fell by over 50 per cent between 2000 and 2003. This placed the UK sixth among the suppliers in 2003, a fall from fourth place in 2002. Among the more important deals was Japan's choice of the British–Italian EH-101 minesweeping and transport helicopters, representing a challenge to the strong US position in the Japanese helicopter market.⁴⁶ The Hawk trainer aircraft was ordered by Bahrain, and the

⁴² Tran, P., 'Dassault seeks Rafale export partner', *Defense News*, 17 Mar. 2003, p. 27; and Mura-dian, V., 'US aims to punish France', *Defense News*, 28 Apr. 2003, p. 1.

⁴³ 'World news roundup: Asia-Pacific', *Aviation Week & Space Technology*, 10 Nov. 2003, p. 19.

⁴⁴ Lewis, J. A. C., 'France takes final shot at selling Leclerc to Saudi Arabia', *Jane's Defence Weekly*, 9 July 2003, p. 5.

⁴⁵ Kemp, D. and Lewis, J., 'Portugal set to buy German submarines', *Jane's Defence Weekly*, 1 Oct. 2003, p. 5.

⁴⁶ Chuter, A., 'Japanese EH101 buy marks first crack in US hold on market', *Defense News*, 9 June 2003, p. 6.

drawn-out Indian selection process seemed to have reached a conclusion with 66 Hawk trainer aircraft on order for delivery in 2006–2009.

Among the remaining suppliers in 2003, two are worth noting. *Canada* and *Uzbekistan* have exported low but steadily increasing volumes of major conventional arms since 2001, with Canada ranked fifth and Uzbekistan seventh in 2003. A single delivery or a small number of large deliveries explains their positions in 2003, and neither country is likely to remain among the 10 largest suppliers for long.

After the dissolution of the Soviet Union and German reunification, large volumes of surplus Soviet equipment were transferred to foreign customers. Some East European countries still export Soviet-designed weapons or improved versions of them, for example, Polish and Slovak armoured vehicles to India and Malaysia.⁴⁷

More importantly in the long term, some of these countries also manufacture Western equipment for foreign markets, such as the Romanian-made French SA-330 Puma helicopters ordered by Côte d'Ivoire and the UAE. Iraq could be among the potential recipients of surplus as well as new equipment.⁴⁸

Actual deliveries by *European Union* members accounted for 23 per cent of global arms transfers in 1999–2003 and 25 per cent in 2003. In 1999–2003 around 80 per cent of EU deliveries went to non-European recipients, accounting for 19 per cent of global arms transfers. The six members of the 2000 Framework Agreement Concerning Measures to Facilitate the Restructuring and Operation of the European Defence Industry accounted for around 21 per cent of global arms transfers in 1999–2003 and 24 per cent in 2003.⁴⁹

The major recipients

The five largest recipients—China, Greece, India, Turkey and the UK—accounted for 35 per cent of all imports of major weapons in 1999–2003. Compared to the five largest suppliers, these recipients represent a much more varied group of countries. With regard to volume, the main dividing line is between the single largest recipient in that period and all the others.

China remained the largest recipient in 1999–2003, accounting for 13 per cent of global imports. Russia was the source of 95 per cent of China's arms imports in that period and of 97 per cent in 2003. In 2003 China was the second largest recipient, with 14 per cent of all imports: it ordered more advanced

⁴⁷ Polish exports of arms to Asian countries reported "growing", *Rzeczpospolita* (Warsaw), 25 Feb. 2004, in Foreign Broadcast Information Service, *Daily Report—Near East and South Asia* (FBIS-NES), FBIS-NES-2004-0225, 27 Feb. 2004.

⁴⁸ 'Daily previews Polish bid to supply armaments to future Iraq army', *Rzeczpospolita* (Warsaw), 2 Dec. 2003, in FBIS-NES-2003-1202, 3 Dec. 2003; 'Polish companies make bid to equip Iraq army', Polish Radio 1 (Warsaw), 3 Dec. 2003, in FBIS-EEU-2003-1203, 4 Dec. 2003; and 'Polish Government underwrites bid to supply arms to Iraq', Polish Radio 1 (Warsaw), 4 Dec. 2003, in FBIS-EEU-2003-1204, 5 Dec. 2003.

⁴⁹ The Framework Agreement between the French Republic, Federal Republic of Germany, Italian Republic, Kingdom of Spain, Kingdom of Sweden and United Kingdom of Great Britain and Northern Ireland Concerning Measures to Facilitate the Restructuring and Operation of the European Defence Industry, 27 July 2000, is available at URL <<http://projects.sipri.se/expcon/loi/indrest02.htm>>.

weapons from Russia which, when delivered, will keep China's import volume high.

While China's volume of imports has been falling since 2001, the next two major recipients in 1999–2003 show increased volumes in 2003. *India*, the major recipient in 2003, is described below. *Greece*, the third largest importer in 1999–2003 and in 2003, increased its volume of imports in 2003 over 2002 by more than 270 per cent. The increase was mainly caused by deliveries of aircraft, radars and ships.

In 2003, India, China and Greece were, in rank order, followed by the *UAE* and *Pakistan*. The UAE has increased its volume of imports considerably since 2001. Among the UAE's acquisitions are helicopters and armoured vehicles, including tanks, from France; missiles and a transport aircraft from the USA; and missiles and armoured vehicles from Russia.

While *the USA* is well known as a major supplier, it is seldom thought of as a recipient. Ranked 27th in the list of recipients in 1998–2002, it was in 19th place in 1999–2003 (see appendix 12A) and 7th in 2003. Although accounting for less than 3 per cent of global imports in 2003, the USA may well remain among the main recipients as a result of a broadening of the scope of its Foreign Comparative Testing (FCT) Program in 2003. The FCT Program now supports US evaluations of foreign technology from the development stage to equipment in use by foreign armed forces. The focus of the programme will be on countries with advanced technologies—since 1980 France, Germany, Sweden and the UK have accounted for close to 70 per cent of US FCT Program procurement—but it will also be used as a political tool in support of countries that have deployed troops alongside US forces or hosted US troops, as well as countries that buy US equipment. This means that new NATO members as well as Japan and South Korea might receive more attention in future.⁵⁰ Equipment from 15 countries, including those mentioned above, was selected for testing in 2004.⁵¹

India

Arms imports by India increased by more than 100 per cent in 2003 over 2002 to the highest level for the present five-year period, maintaining a constant increase since 2000. While Indian imports accounted for only about 9 per cent of major arms imports in 1999–2003, giving India second place for the period, India accounted for 19 per cent of global transfers in 2003, making it the largest recipient that year. Russia provided 79 per cent of all Indian arms imports in 1999–2003 and 75 per cent in 2003.

⁵⁰ Kington, T., 'Shopping for world's newest technologies', *Defense News*, 5 Jan. 2004, p. 10. For a 20-year summary of the FCT Program see Davis, D. and Solters, D., 'Foreign comparative testing program promotes global defense industry partnership', *Defense International Security Assistance Management (DISAM) Journal*, vol. 21, no. 3 (spring 1999), pp. 123–27.

⁵¹ Peniston, B., 'DOD to test foreign defense equipment', *Defense News*, 2 Feb. 2004, p. 16. Between 1980 and 1999 the programme funded 389 FCT evaluations resulting in 175 successful tests and 97 procurements worth over \$4.9 billion at fiscal year 1999 prices.

India has for a number of years had far-reaching plans to modernize most of its military forces in order to enhance its defensive power as well as its reach and delivery capabilities.⁵² The air force is engaged in major purchases. In 2003 it considered increasing its nuclear-weapon delivery capability by acquiring additional Mirage-2000 combat aircraft from Qatar. However, this was also partly to prevent Pakistan from acquiring them, along with various services.⁵³ The delivery of three Talwar Class frigates from Russia was among the larger and more important transfers in 2003. These ships and their associated missiles had a strong impact on the SIPRI trend-indicator value for 2003 and are important in the context of the Indian Navy's ambition to increase its reach and become a blue-water navy. In the words of Indian Navy Chief of Staff Admiral Madhavendra Singh, the acquisition will add 'a much larger range and sensor capability than any ship of the Indian Navy has today. It will enable India to target more further away'.⁵⁴

With the same force-projection ambitions in mind, India has for many years planned to acquire a Russian aircraft carrier—the *Admiral Gorshkov*. India and Russia were not able to agree on the price until late 2003, and the contract, which included the combat aircraft for the ship, was signed in early 2004. India plans to equip the ship with foreign, non-Russian, air defence systems. This would require more work, and therefore more money, to make it compatible with the ship's combat control systems⁵⁵ but reflects a more general Indian concern, since India has not always been satisfied with the performance of Russian equipment. It has reportedly warned Russia that, if performance remains a problem, India will purchase equipment, including spare parts for ships previously acquired from the Soviet Union,⁵⁶ elsewhere.⁵⁷ There are several potential suppliers interested in increasing their share of the Indian market, as illustrated by the British deal to supply Hawk aircraft and the French offer of long-term military cooperation.⁵⁸ The USA is trying to improve its relations with India and has included air-defence systems with

⁵² Raghuvanshi, V., 'India aims to project more power', *Defense News*, 10 Nov. 2003, p. 10.

⁵³ Raghuvanshi, V., 'India to vie for Mirage fighters from Qatar', *Defense News*, 1 Sep. 2003, p. 15; Raghuvanshi, V., 'Indian Army outlines big weapon buying blueprint', *Defense News*, 24 Nov. 2003, p. 11; and Raghuvanshi, V., 'Indian Army plans massive upgrade to infantry forces', *Defense News*, 10 Nov. 2003, p. 23.

⁵⁴ 'India finally receives first frigate from Russia', *Jane's Defence Weekly*, 25 June 2003, p. 4.

⁵⁵ 'Russian source: three issues remain unresolved in aircraft carrier sale to India', ITAR-TASS (Moscow), 2 Dec. 2003, in FBIS-SOV-2003-1202, 3 Dec. 2003.

⁵⁶ Raghuvanshi, V., 'Indian fleet faces spare parts shortage', *Defense News*, 9 Feb. 2004, p. 14.

⁵⁷ The ambition of Hindustan Aeronautics Ltd (HAL), the main Indian aircraft company, is to support competition among domestic aerospace companies while, at the same time, reducing its own spending overseas. The plan is to select a number of domestic firms and help them choose foreign partners to undertake systems and weapons integration. The immediate purpose is alleged to be to seek assistance in the production of the advanced light helicopter programme and in the modernization and production of the British-designed Jaguar combat aircraft. The aim is to involve Western companies, sometimes together with Russian companies, as in the case of the multi-role transport aircraft. Raghuvanshi, V., 'Indian ministry puts Russian arms manufacturers on notice', *Defense News*, 24 Nov. 2003, p. 11; Raghuvanshi, V., 'HAL to help Indian firms find foreign defense partners', *Defense News*, 10 Mar. 2003, p. 36; and Raghuvanshi, V., 'India's HAL is eager for aviation ventures', *Defense News*, 17 Nov. 2003, p. 18.

⁵⁸ Mitra, S., 'New dimension to Indo-French military relations', *The Sentinel*, 30 June 2003.

anti-ballistic missile (ABM) capabilities such as the PAC-3 and the sea-based SM-2 in the discussions.⁵⁹ An opportunity to gain a stronger foothold in the Indian defence market, accompanied by anti-terrorism ambitions, has also increased the USA's willingness to strengthen Israeli–Indian military relations.⁶⁰

Although Russia remains the most visible supplier to India because of its deliveries of major weapons Israel has, according to Israeli Deputy Prime Minister Yosef Lapid, become the second largest supplier of military equipment to India in the past five years.⁶¹ Among the major weapons recently delivered is the Barak surface-to-air missile (SAM). The need for SAMs from abroad has become especially urgent after the problems with the indigenous Akash and Trishul SAMs, which are running many years behind schedule and may even be cancelled completely.⁶² India has an interest in acquiring more Israeli weapons, including the Arrow-2 anti-ballistic missile. Because of the close military–political relations between Israel and the USA, involving US transfers of arms and technology to Israel, this Indian interest has led to bilateral Indian–US negotiations about the conditions for future Israeli arms deliveries.⁶³ In 2003, Israel received US permission to transfer three Phalcon early-warning and control systems with Israeli radars and other electronics mounted on modified Il-76 transport aircraft (also known as the Beriev A-50) with deliveries to commence in 2006.⁶⁴

International arms embargoes

There was one new international arms embargo in 2003. On 28 July 2003 the United Nations Security Council established a mandatory embargo on arms and other military assistance to armed groups in the Democratic Republic of the Congo (DRC). The embargo was limited to those groups that were not party to the 2002 Global and All-Inclusive Agreement on the Transition in the Democratic Republic of the Congo, and to the North and South Kivu and Ituri regions (the north-eastern part of the DRC).⁶⁵

⁵⁹ Koch, A., 'US, India agree future defence cooperation', *Jane's Defence Weekly*, 20 Aug. 2003, p. 5; and Ratnam, G. and Raghuvanshi, V., 'Patriot threatens Indo-Pak balance', *Defense News*, 13 Oct. 2003, p. 1.

⁶⁰ Mathews, N., 'India on Israel's radar', *Aviation Week & Space Technology*, 22 Sep. 2003, p. 27.

⁶¹ 'India seeks missile cooperation with Israel', *Jane's Missiles & Rockets*, vol. 7, no. 11 (Nov. 2003), p. 13.

⁶² 'India seeks missile cooperation with Israel' (note 61).

⁶³ One possible political complication is that India is also strengthening its relations with Iran. India will need to show diplomatic skill in its relations with Iran and Israel. Opall-Rome, B. and Raghuvanshi, V., 'Indo-Israeli arms trade soars', *Defense News*, 15 Sep. 2003, p. 12; Raghuvanshi, V., 'Israel may become India's top source', *Defense News*, 10 Mar. 2003, p. 32; and Opall-Rome, B. and Raghuvanshi, V., 'India's balancing act', *Defense News*, 15 Sep. 2003, p. 1.

⁶⁴ Bedi, R., 'Phalcon sales to India cleared', *Jane's Defence Weekly*, 24 Sep. 2003, p. 5; and 'India and IAI AWACS', *Aviation Week & Space Technology*, 20 Oct. 2003, p. 13.

⁶⁵ UN Security Council Resolution 1493, 28 July 2003. See chapter 3 in this volume. All the UN Security Council resolutions referred to in this chapter are available at URL <<http://www.un.org/documents/sres.htm>>.

In 2003 changes were made to embargoes which reflected the recent changes in the international political environment. The UN sanctions against *Libya* were lifted on 12 September 2003,⁶⁶ and the UN arms embargo against *Iraq* was modified in May 2003 after the formal ending of hostilities by the occupying powers and the establishment of the Coalition Provisional Authority.⁶⁷ In Iraq, weapons and military equipment required for border protection and internal security were exempted while other embargo conditions remained in force.

Some countries were accused of breaching international embargoes. The USA accused *Syria* of supplying some 500 AT-14 (also known as Kornet-E) anti-tank missiles to Iraq in late 2002 and early 2003. According to the USA, some of these missiles were used against coalition forces in 2003. Some sources claim that these missiles were delivered to Syria from Russia as part of a larger order.⁶⁸ US allegations were repeated that Syria had since 1991 been the route by which weapons and components reached Iraq from Eastern Europe and the former Soviet republics. Such deliveries were said to have been paid for by Iraqi oil worth up to \$2 billion per year exported to or through Syria in contravention of UN embargoes.⁶⁹

A Panel of Experts established by the UN Security Council to investigate the effectiveness of the UN embargo on *Somalia* found the embargo to be ineffective, with serious breaches taking place.⁷⁰ The Security Council established another Panel of Experts in January 2004 to further investigate the possibilities for improving border controls and monitoring in Somalia.⁷¹ In early 2004 some EU countries raised the possibility of lifting the EU arms embargo against *China*, but no decision was taken.

III. The impact of the Iraq war on future arms transfers

In the 1960s a theory was formulated which suggested that international arms races may lead to war (the ‘action–reaction theory’).⁷² However, according to other theoretical explanations, it is not a simple analytical task to define and empirically test the existence of an arms race. Does the sporadic but competitive build-up of arms between two or more nations constitute arms race behaviour? Or is an arms race the exponential accumulation of arms by both sides—quickly reaching an excessive and destabilizing build-up? It is not clear that the acquisition of arms by two countries—even if neighbours—is only or mainly based on insecure relations between them, and not the result of

⁶⁶ UN Security Council Resolution 1506, 12 Sep. 2003. See chapters 1 and 16 in this volume.

⁶⁷ UN Security Council Resolution 1483, 22 May 2003. See chapter 2 in this volume.

⁶⁸ Ben-David, A., ‘Syria upgrades T-72 tanks’, *Jane’s Defence Weekly*, 6 Aug. 2003, p. 17.

⁶⁹ Hughes, R., ‘Syria in the US spotlight’, *Jane’s Defence Weekly*, 23 Apr. 2003, pp. 22–23.

⁷⁰ United Nations, Letter dated 25 March 2003 from the Chairman of the Security Council Committee established pursuant to resolution 751 (1992) concerning Somalia addressed to the President of the Security Council, S/2003/223, 25 Mar. 2003.

⁷¹ UN Security Council Resolution 1474, 8 Apr. 2003.

⁷² Richardson, L. F., *Arms and Insecurity: A Mathematical Study of the Causes and Origins of War* (Boxwood Press: Chicago, Ill., 1960).

problems with other countries or purely domestic factors. Furthermore, as a result of the new international security situation, many states can credibly claim that they are arming in support of peace operations. It is also open to question whether the relevant quantitative indicator of an arms race is gross military expenditure, equipment expenditure (including or excluding R&D), or the actual number of weapons deployed, some of which might be imported.

Traditional arms race theories may now have less explanatory power than they might previously have had. Most wars are not interstate but intra-state and interstate wars may be fought over long distances between countries with no, or weak, arms acquisition relationships.⁷³ International wars in the past 15 years were fought by some of the world's major military powers, geographically distant from the war zone.

There is also the converse effect—that war tends to lead to arms transfers. This is because: (a) forces participating in the war need to restock their inventories;⁷⁴ and (b) equipment successfully used in a war may confirm already formulated plans as well as creating new demands in countries that did not participate in the war. This section discusses whether, and if so how, major arms transfers, plans and expectations have, or might have, been affected by the 2003 military operation in Iraq.

Developments in 2003

As early as March 2003, it had been suggested that the USA would seek demonstrate the effectiveness of certain weapon systems in Iraq in order to increase their sales potential to allies.⁷⁵ It was further suggested that the Iraq war was a success for the largest US companies.⁷⁶ The analysis presented in this section would seem to support a March 2003 prognosis from US analysts that there would be no dramatic increase in US arms sales in the short term.⁷⁷ In the long term, however, the effects may be different.

Many major conventional weapons used in Iraq, not least missiles, were of US origin and their use received major media coverage. Certain types were reported to have been used extensively, such as sea- and air-launched Tomahawk (BGM-109) cruise missiles. During the first two weeks of the military operation, 700 BGM-109 Tomahawk land-attack cruise missiles were fired and discussions were opened with the US producer on the acceleration of production.⁷⁸ The UK, the only foreign user of the Tomahawk, placed two follow-on orders for the submarine-launched Tomahawk in 1999 and 2001, with the last batch to be delivered in 2003. It also decided in 2003 to acquire up to

⁷³ See chapter 3 and appendix 3A in this volume.

⁷⁴ It should be noted, however, that the losing side in a war may be prevented from rearming itself.

⁷⁵ 'Iraq war showcases weapons' effectiveness', *Air Letter*, no. 15209 (28 Mar. 2003), p. 5.

⁷⁶ 'Irakkriget säljsuccé för vapenjättar' [The Iraq war a sales success for weapon giants], *Svenska Dagbladet* (Stockholm), 24 Apr. 2003, p. 9.

⁷⁷ Ratnam, G., 'No postwar boom seen for US exports', *Defense News*, 31 Mar. 2003, p. 15. This section does not address precision-guided bombs, which are not defined as major conventional weapons by SIPRI.

⁷⁸ 'Raytheon may speed up Tomahawk production', *Air Letter*, no. 15214 (4 Apr. 2003), p. 4.

100 of the Tomahawk Block IV (or Tactical Tomahawk) missile for deployment in 2006.⁷⁹

Other US-manufactured missiles used by US and British forces were different versions of the AGM-65 Maverick air-to-surface missile.⁸⁰ Their use may have supported the 2003 decisions: (a) by Hungary, to equip the Gripen combat aircraft with the AGM-65Gs;⁸¹ and (b) by Singapore, to request a training package that included the missile.⁸² The Maverick is an option for other countries, including Poland, Thailand and the UAE, and successful use in Iraq may be an additional factor in their acquisition calculations.

The US AGM-114M and AGM-114N versions of the Hellfire anti-tank missile were fired from helicopters for the first time during the military operation in Iraq.⁸³ This missile is also included in the acquisition plans of Egypt, Japan, Taiwan and the UAE.

Although not in every case obvious from media reports, US forces used weapons developed by other countries. One such weapon is the Israeli Popeye attack missile under production in the USA as the AGM-142 Have Nap (or Raptor). A later version of the Popeye is being tested in the USA. Australia also bought Have Naps from the USA in 1998–2002. Problems with integrating them on Australian combat aircraft seem to have been solved, and there could be additional orders.

Unmanned air vehicles (UAVs) are one of the most written about weapon systems used in Iraq.⁸⁴ Pioneer and Hunter UAVs are among the Israeli UAVs used by US forces in Iraq. The Pioneer surveillance UAV is a modernized US-produced version. However, potential US Army orders of the Hunter are not large enough to support a US production line. They will therefore be imported from Israel if required.⁸⁵

While Russian President Vladimir Putin did not support the war in Iraq, his public position was more restrained than that of France. While rejecting accusations of illegal Russian arms transfers to Iraq, and in contrast to the views of many analysts, Russian Defence Minister Sergei Ivanov argued in

⁷⁹ Barrie, D., 'Cruise control', *Aviation Week & Space Technology*, 14 July 2003, p. 42; and Barrie, D., 'Storm trials', *Aviation Week & Space Technology*, 31 Mar. 2003, pp. 25–26.

⁸⁰ Dickerson, L., 'Almost 800 Mavericks used during fighting in Iraq', *Missile Forecast* (Forecast International/DMS), 28 May 2003.

⁸¹ Dickerson, L., 'Hungary to arm Gripens with AMRAAMs, Sidewinders', *Missile Forecast* (Forecast International/DMS), 27 May 2003.

⁸² Defense Security Cooperation Agency, 'Singapore pilot training program with munitions, services, and support', Press Release, 1 May 2003, URL <<http://www.defense-aerospace.com/data/communiqués/data/200.html>>.

⁸³ Wall, R., 'Cobras in urban combat', *Aviation Week & Space Technology*, 14 Apr. 2003, pp. 73–75. A US missile currently under development, the common modular missile (CMM), might be a future replacement for Mavericks and Hellfires for both the USA and the UK.

⁸⁴ *Aviation Week & Space Technology*, 22 Sep. 2003, p. 18.

⁸⁵ Wall, R., 'Iraq-bound', *Aviation Week & Space Technology*, 2 Sep. 2003, pp. 57–58; and Opall-Rome, B., 'US goes to war with Israeli arms', *Defense News*, 31 Mar. 2003, p. 4. Brazil was another supplier of military equipment to US forces. Information suggests that Brazil has mastered satellite-guided (smart) weapon technology and that Brazilian companies are developing missiles, including cruise missiles similar to the Tomahawk missile. Godoy, R., 'Brazilian firm producing "smart bombs" for armed forces', *O Estado de Sao Paulo*, 25 May 2003, in Foreign Broadcasting Information Service, *Daily Report—The Americas (FBIS-LAT)*, FBIS-LAT-2003-0527, 3 June 2003.

April 2003 that the Iraq war had been a good resource for advertising Russian weapons and that Russian arms delivered before the 1990 UN embargo performed well in Iraq.⁸⁶ However, Iraqi weapons, from both the former Soviet Union and other sources, seem generally not to have been able to inflict any serious losses. Nevertheless, in late 2003 it was reported that countries in the Middle East had shown interest in the Kornet-E and other Russian weapons.⁸⁷ Anti-tank and anti-aircraft missiles were included in Indonesian orders of Russian helicopters in 2003, and Viet Nam showed interest in SA-10/S-300 SAM systems. Other countries whose recent acquisition plans that include SA-10 missiles are Algeria, India, Syria and Ukraine.

British forces used indigenous as well as foreign weapons in Iraq, including the first wartime use by the British Air Force of the British–French Storm Shadow/SCALP cruise missile.⁸⁸ Deliveries from the UK to the UAE should begin soon in accordance with an order from 1998.⁸⁹

The Swedish ARTHUR artillery-locating radar was deployed in both Afghanistan and Iraq by British forces.⁹⁰ Denmark, Malaysia and Norway also received ARTHUR radars before hostilities commenced in Iraq. Kuwait is among several countries that have shown interest in this system. In early 2004 British forces received four complete systems of the new version (called the mobile artillery monitoring battlefield radar, MAMBA, in the UK) under the British Urgent Operational Requirements Programme. The radars are mounted on Swedish Bv-206 tracked vehicles.⁹¹ Another Swedish weapon system, the laser-guided RBS-70 SAM, has been delivered to several countries. Australian forces are reported to have taken it to both Afghanistan and Iraq. Australia is modernizing existing systems and decided in 2003 to procure additional RBS-70s.⁹² Australian forces also used the US Javelin anti-tank missiles, first ordered in 2001.⁹³ Again, operations in Iraq increased interest that had been

⁸⁶ Pronina, L., 'Russian defense industry sees postwar gains', *Defense News*, 14 Apr. 2003, p. 6; and 'French arms ethics committee report critical of French weapons sales to Iraq', *Le Monde* (Paris), 16 Apr. 2003, in Foreign Broadcasting Information Service, *Daily Report—West Europe (FBIS-WEU)*, FBIS-WEU-2003-0416, 21 Apr. 2003.

⁸⁷ 'Control Systems Agency says sales of Russian weapons rise following Iraq war', ITAR-TASS (Moscow), 16 May 2003, in FBIS-SOV-2003-0516, 19 May 2003; 'Russian official: US sanctions against Tula plant not to affect Greece contract', ITAR-TASS (Moscow), 19 Sep. 2003, in FBIS-SOV-2003-0919, 22 Sep. 2003; and Pronina (note 85).

⁸⁸ Fiorenza, N., 'European advance on precision strike goals', *Defense News*, 29 Sep. 2003, p. 12; Chuter, A., Kaufman, G. and Svitak, A., 'New, old weapons see service in Iraq', *Defense News*, 31 Mar. 2003, p. 11; and Barrie, D., 'Precision guidance', *Aviation Week & Space Technology*, 28 Apr. 2003, p. 52.

⁸⁹ Scott, R., 'UK pushes surplus equipment sales', *Jane's Defence Weekly*, 1 Oct. 2003, p. 13.

⁹⁰ Chuter, A., 'UK weapons debut in Iraq', *Defense News*, 12 May 2003, p. 3.

⁹¹ 'Army gets radar six months early', *Preview*, British Defence Procurement Agency no. 120 (Feb. 2004); and 'UK gets battlefield radar', *Defense News*, 2 Feb. 2004, p. 18.

⁹² Dickerson, L., 'Saab Bofors wins Australian SAM contract', *Missile Forecast* (Forecast International/DMS), 23 May 2003.

⁹³ In at least 1 case, that of the Javelin anti-tank missile, the post-war reviews by the US Marine Corps and the US Army Special Forces were different. The decision by Raytheon, a company involved in the production of the missile, to use the review by the US Army Special Forces on its Internet site caused a debate in the USA about the legal limits in weapon information and marketing. Kerber, R., 'Raytheon site features good reviews of missile', *Boston Globe*, 27 Nov. 2003, p. D1.

generated in Australia and other countries. In 2003 there were orders for the Javelin from Ireland, New Zealand, Norway and the UK.⁹⁴

The above examples suggest that few new decisions were made after the end of the hostilities in Iraq in May 2003 that resulted in new orders. Most of the weapon systems were previously known—some had been used in combat—and had therefore already been considered by many of the potential buyers.⁹⁵ The lessons of Iraq may lead to a renewed interest in ‘traditional’ weapons such as the heavy tank. In parallel, countries that view themselves as possible ‘victims’ of an intervention by a major power or coalition force may have learned a different lesson. For them the most obvious choice could be SALW. While the USA and other countries try to control and reduce the spread of man-portable air defence systems (MANPADS, see below), such missiles were among the most effective anti-aircraft weapons used in Iraq. A continued or even increased interest in MANPADS is therefore likely. Simple, light, unguided anti-tank weapons such as the Soviet-designed RPG-7 and the Swedish-designed AT-4 have also proved themselves useful both for the coalition and opposition forces.

Long-term implications

Although the use of particular weapons was highlighted during 2003, the attack on Iraq was hailed as the first test of network-centric warfare (NCW). The operation was said to have demonstrated the potential of new developments in information acquisition and analysis, precision-guided weapons and attack techniques using satellites and the Global Positioning System (GPS), air superiority, hitting multiple targets from the air during one pass irrespective of altitude, and the interoperability of multi-service and multinational forces.⁹⁶ The most important long-term consequences may therefore be for the future development of doctrine, operational capabilities and delivery options rather than of specific weapon systems.⁹⁷ For instance, European nations are—in some cases in cooperation with other nations—in the process of developing and acquiring military reconnaissance and communication satellites as well as their own GPS-type navigation system,⁹⁸ and Greece plans to lease a European, Israeli or US satellite for military use and for possible later purchase.⁹⁹

⁹⁴ Lockheed Martin, ‘Norway selects Raytheon-Lockheed Martin Javelin anti-tank weapon system’, Press Release, 28 Jan 2004.

⁹⁵ The Iraq war may be different from the war in Afghanistan, where it has been said that the USA tested 30 undeveloped technologies, from armed aerial drones to dosimeters that measure toxic chemical exposure, in order to stimulate military innovation. Loeb, V., ‘Afghan war is a lab for US innovation: new technologies are tested in battle’, *Washington Post*, 26 Mar. 2002, p. 16.

⁹⁶ Hughes, D., ‘Networking, swarming and warfighting’, *Aviation Week & Space Technology*, 29 Sep. 2003, pp. 48–51. However, the results are mixed. One concern in late 2003 was that the technical aspects of the NCW concept were about to take over and move it ‘away from the practical’. Fulghum, D. A., ‘Hi-tech reassessed’, *Aviation Week & Space Technology*, 10 Nov. 2003, pp. 29–30.

⁹⁷ Barrie, D., ‘Missile guidance’, *Aviation Week & Space Technology*, 6 Oct. 2003, p. 50; and Wall, R., ‘Assessing the war’, *Aviation Week & Space Technology*, 16 June 2003, pp. 163–64.

⁹⁸ See, e.g., Edwards, J. S., ‘Galileo’s list of partners keeps growing’, *Space Systems* (Forecast International/DMS), 5 Nov. 2003; Taverna, M. A. and Wall, R., ‘The Chinese connection’, *Aviation Week &*

Successful use in combat will continue to be a marketing tool for weapon producers and suppliers, although not always the most convincing one.¹⁰⁰ Military analysts in Australia, the UK, the USA and other countries will examine information from the Iraq operation in order to define the lessons from both an offensive and a defensive perspective. However, some lessons will be relevant only to a small number of countries. For most potential buyers, specific Iraq experiences are likely to be more interesting and relevant for long-term military planning than for decisions about responding to more immediate and nation-specific gaps in inventories or modernization plans. Step-by-step modernizations of old force structures and weapon inventories and the purchase of less expensive weapons or operational solutions may continue to be the cost-effective approach for most countries. The missiles discussed above fit into such strategies, while the most advanced combat aircraft used in the operation and those under development may not—for financial reasons. Although much of the focus on the attack on Iraq was on air strike and air defence aspects, ground vehicles such as tanks will remain important, as will anti-tank weapons.¹⁰¹

The importance of the operation in Iraq for future arms transfers may therefore lie less in lessons from the campaign itself, and more in the way it supported conclusions from the war in Afghanistan and about the relevance of certain kinds of weapons, such as guided missiles and UAVs.

Two major trends in missile development are precision guidance beyond visual range (BVR) and defence against offensive weapons such as ballistic missiles.¹⁰² Examples of BVR missiles include sea- and air-launched cruise missiles. If the USA remains restrictive with regard to sales of the Tomahawk, this could increase the export potential for missiles such as the European Storm Shadow/SCALP and Taurus KEPD-350 cruise missiles as well as similar Russian weapons. Defensive SAM missiles include: the Russian S-400 missile system; the US Patriot PAC-3, also used in Iraq; the US–European Medium Extended Air Defense System (MEADS); and the Israeli Arrow and Delilah/Light Defender missiles. India has ordered the Arrow and, with the support of the US Government which has partly financed its development, Israel expects that the potential market for it might include Greece, Italy,

Space Technology, 29 Sep. 2003, p. 23; and Dempsey, J., 'Israel and India look to participate in Galileo', *Financial Times*, 25 Sep. 2003, p. 2.

⁹⁹ 'Greek Defense Minister announces proceeding with military satellite', *Ta Nea* (Athens), 9 May 2003, in FBIS-WEU-2003-0509, 12 May 2003.

¹⁰⁰ In the combat aircraft competition in the Czech Republic, an argument used by the USA in favour of the US F-16 was that it had proved itself in a number of wars, while the Gripen had not. Novotny, J., 'Sweden to offer offsets regardless of Czech cabinet's decision on fighters', *Pravo* (Prague), 3 Dec. 2003, in FBIS-EEU-2003-1204, 5 Dec. 2003.

¹⁰¹ This is reflected in Australian, British and Czech purchase decisions. Ferguson, G., 'Australia cuts deep to fund future needs', *Defense News*, 17 Nov. 2003, p. 18; 'Plenty of praise for UK defence industry equipment', *Jane's Defence Industry*, vol. 20, no. 9 (Sep. 2003), pp. 9–10; and Bostock, I., 'Australia mulls Leopard 2', *Jane's Defence Weekly*, 28 May 2003, p. 6.

¹⁰² Stocker, J. and Wiencek, D. (eds), *Missile Defence in a New Strategic Environment: Policy, Architecture and International Industrial Co-operation After the ABM Treaty*, Whitehall Papers, Royal United Services Institute (Stephen Austin & Sons Ltd: London, 2003).

Japan, South Korea, Taiwan and Turkey.¹⁰³ In 2003 Australia and Japan agreed to cooperate with the USA in developing a missile defence system, and the Gulf Cooperation Council (GCC) has plans for a coordinated air-defence system.¹⁰⁴ However, a GCC study has been delayed by events in Iraq.¹⁰⁵ Japan's joint anti-ballistic missile research project with the USA has led Japan to examine ways to ease its export regulations to permit the sharing of ABM technology with the USA. If accepted, Japan's policy might be broadened to other technology areas and to other nations.¹⁰⁶

Relatively small numbers of UAVs have been exported in the past, but increased possibilities to mix small and large, armed and unarmed UAVs will add to their future potential.¹⁰⁷ The number of countries and companies involved in UAV development has increased in the past 10 years but they are mainly developing relatively inexpensive types of surveillance UAVs.¹⁰⁸ Most users will therefore have to import more advanced UAVs, including UAVs with the greater payload capacity that would allow weapons to be carried—so-called unmanned combat air vehicles (UCAVs).¹⁰⁹ Over time, however, the costs are likely to decline and availability will increase. In early 2002, the US Government decided to replace the previously strong presumption to deny transfers of the most advanced UAVs, such as the Global Hawk and the Predator, with a case-by-case decision where transfers involve NATO recipients, Australia and Japan. Australia and Germany have expressed an interest in the Global Hawk, but the US terms for such transfers are not yet clear.¹¹⁰

¹⁰³ Opall-Rome, B., 'Arrow production turns focus to US parts', *Defense News*, 29 Jan. 2001, pp. 3, 19; and O'Sullivan, A., 'Boeing halts Arrow co-production talks', *Jerusalem Post* (Internet edn), 26 Jan. 2001, URL <<http://www.jpost.com/Editions/2001/01/26/Business/Business/20285.html>>. See also Ahlström, C., 'Arrows for India? Technology transfers for ballistic missile defence and the Missile Technology Control Regime', *Journal of Conflict and Security Law*, vol. 9, no. 1 (spring 2004) pp. 103–25. For a more general discussion of missile proliferation see Lindström, G., and Schmidt, B. (eds), *Fighting Proliferation: European Perspectives*, Chaillot Papers no. 66 (Institute for Security Studies: Paris, 2003).

¹⁰⁴ Raghuvanshi, V. and Sherman, J., 'Despite discomforts, Asian nations support Iraq stabilization efforts', *Defense News*, 2 Dec. 2003, p. 32.

¹⁰⁵ Kahwaji, R., 'Iraq war stalls GCC missile defense plans', *Defense News*, 1 Dec. 2003, p. 1.

¹⁰⁶ 'Missile milestone', *Aviation Week & Space Technology*, 1 Dec. 2003, p. 17; and *Aviation Week & Space Technology*, 24 Nov. 2003, p. 17.

¹⁰⁷ 'Anti-terrorism drive creates significant opportunities for unmanned air vehicles market, says Frost & Sullivan UAV market report', 2 Dec. 2002, URL <<http://www.defense-aerospace.com/data/communiques/data/2002Dec13298/index.htm>>.

¹⁰⁸ See Gormley, D. M., 'New developments in unmanned air vehicles and land-attack cruise missiles', *SIPRI Yearbook 2003: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2003), pp. 409–32.

¹⁰⁹ Fulghum, D. A., 'UAV appetite grows, questions linger', *Aviation Week & Space Technology*, 2 July 2001, p. 66; Fulghum, D. A. and Wall, R., 'South African UAV targets low-end niche', *Aviation Week & Space Technology*, 16 July 2001, p. 85. This is also true in Europe, where demands are likely to increase after NATO decided in 2002 to define technical specifications (NATO Standardization Agreements) to support UAV interoperability.

¹¹⁰ 'Going global', *Aviation Week & Space Technology*, 4 Feb. 2002, p. 13; US Department of State, 'US works to stop proliferation of unmanned air vehicles', 11 June 2002, URL <<http://www.defense-aerospace.com/data/communiques/data/2002Jun10658/index.htm>>; Svitak, A., 'US lawmakers try to limit UAV exports', *Defense News*, 10–16 June 2002, p. 6; and 'Weapons alert!', *Arms Sales Monitor*, no. 48 (Aug. 2002), p. 6. Not surprisingly, the decision created concern in Congress as well as among

Some of the long-term consequences might limit such transfers. Those mentioned above, such as the need to adopt different defence policies and structures, military requirements and cost considerations, will make some new weapon and capability options unrealistic for many countries.¹¹¹ Other restrictive factors include new international and multilateral agreements or voluntary national restraints. One example is portable anti-aircraft missiles. In 2003 the G8 countries, along with others, agreed to review export policies and other measures in order to prevent the illegal spread of MANPADS,¹¹² and from 2004 they are among the missile systems to be reported to the UN Register on Conventional Arms (UNROCA).¹¹³

IV. Arms transfer reporting and transparency

The SIPRI trend-indicator value was not developed to assess the economic magnitude of national arms markets or of the global market.¹¹⁴ In order to make such assessments, data are needed on the financial values of weapon sales, here called the arms trade. By adding data released by the supplier governments on the value of their arms trade it is possible to arrive at a rough estimate of the financial value of this trade. That value for 2002, the most recent year for which data are available, is estimated at \$26–34 billion (see figure 12.2).¹¹⁵ This is 60–67 per cent of the 1998 estimate of \$43–51 billion. The figure is reported as a range because of the different definitions used in and between countries. The 2002 figure accounts for 0.4–0.5 per cent of total world trade.¹¹⁶

arms control proponents. Agüera, M. and Kaufman, G., 'Germany, US spar over Global Hawk tech transfer', *Defense News*, 22 Dec. 2003, p. 4.

¹¹¹ Many countries, not least in Asia and the Middle East, are in the process of implementing modernization plans made after the war in Afghanistan and the 1991 Gulf War. For many of these countries, these activities involve major investment which does not leave room for further orders. For others, the disappearance of the Iraqi threat could lead to acquisitions being postponed or reduced. Kahwaji, R., 'War may slow Arab arms buys', *Defense News*, 17 Mar. 2003, pp. 1, 10.

¹¹² On MANPADS, see Anthony, I., SIPRI, *Reducing Threats at the Source: A European Perspective on Cooperative Threat Reduction* (Oxford University Press: Oxford, 2004) pp. 59–68; and Wassenaar Arrangement, '2002 plenary of the Wassenaar Arrangement on export controls for conventional arms and dual-use goods and technologies', Plenary Statement, Vienna, 12 Dec. 2002.

¹¹³ 'Bush och Chirac sluter fred' [Bush and Chirac make peace], *Svenska Dagbladet* (Stockholm), 3 June 2003, p. 13; 'Tracking MANPADS', *Aviation Week & Space Technology*, 3 Nov. 2003, p. 11; Barrie (note 96), p. 51; Pronina (note 85), p. 6; and Graduate Institute of International Studies, *Small Arms Survey* (Oxford University Press: Oxford, 2004), URL <<http://www.smallarmssurvey.org/>>.

¹¹⁴ See note 1.

¹¹⁵ Government arms export data are not entirely reliable or comparable. The data usually refer to the aggregation of prices agreed between suppliers and recipients of items defined as military goods that have passed through customs. The time of actual payment may be different from the time of delivery and the data do not provide actual financial flows, profits or revenues. For some smaller countries, only data on arms licences are available.

¹¹⁶ Total world exports in 2002 amounted to \$6420 billion. International Monetary Fund (IMF), International financial statistics online, URL <<http://ifs.spdn.net/imf/>>.

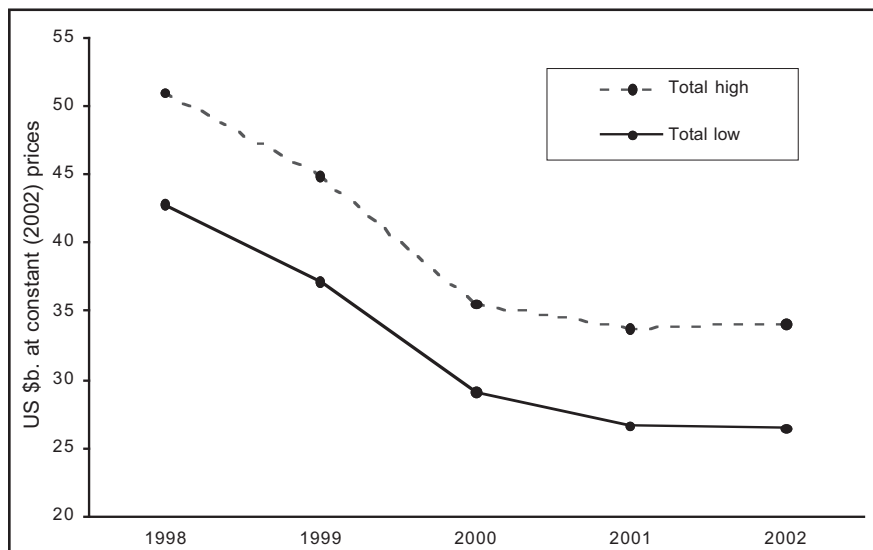


Figure 12.2. The trend in international arms exports, 1998–2002

Note: The lower estimate is the aggregation of reported minimum values of arms exports. The higher estimate is the aggregation of reported maximum values. For certain countries and certain years official data are unavailable and estimates have been made on the assumption that the rate of change in an individual country for which data are missing is the same as the average in the sample as a whole.

Source: The data used to compile this figure are available at URL <http://projects.sipri.se/armstrade/at_gov_ind_data.html>.

International transparency

The UN Register on Conventional Arms

In 2003 a Group of Governmental Experts reviewed the UN Register on Conventional Arms and reported its conclusions and recommendations to the UN Secretary-General.¹¹⁷ This was the fourth group to do so in the register's 10-year existence. It formulated two recommendations for expansions of the categories on which countries are asked, voluntarily, to report exports and/or imports. Both recommendations were accepted by the UN General Assembly in December 2003.¹¹⁸ First, Category III (large-calibre artillery systems) was broadened to include all artillery systems with a calibre of 75 millimetres (mm) or more instead of the previous 100-mm limit. This, to some extent, answered criticisms, mainly from African countries, which considered some of the UNROCA categories to be too limited and to exclude systems relevant to smaller countries. This calibre change covers the most common mortars (81-mm and 82-mm mortars) and could also include recoilless rifles if

¹¹⁷ The reports, and the reports from the earlier reviews that took place in 1994, 1997 and 2000, are available on the UN Internet site at URL <<http://disarmament2.un.org/cab/register.html#item3>>.

¹¹⁸ UN General Assembly Resolution 58/54, 8 Dec. 2003.

governments choose to define them as artillery weapons. However, it still excludes many anti-tank rocket launchers.

The second change was to include MANPADS in Category VII (missiles and missile launchers). SAMs were explicitly excluded in the original definition. The reason behind the inclusion of MANPADS was the possibility that they may be acquired by terrorists—rather than their possible destabilizing effects in the context of country-to-country relations, which is the main rationale for the UNROCA. This change extends the relevance of the UNROCA to the totally different area of anti-terrorist activities and even crime prevention. It is open to question, however, whether the rather vague and limited transparency offered by the UNROCA will help to prevent MANPADS from getting into the hands of terrorists.

More important than the above was the fact that the group could still not agree whether to include reporting on procurement through national production, or to expand the UNROCA to include ‘force multipliers’ such as tanker aircraft and other force-projecting equipment. Both issues are recognized as important in the context in which the UNROCA was originally established, that of preventing destabilizing build-ups of armaments.¹¹⁹

The EU Code of Conduct on Arms Exports

In December 2003 the European Union published its fifth annual review of the implementation of the 1998 Code of Conduct on Arms Exports.¹²⁰ For the second year running, the report included an overview of arms export data from each EU member state broken down by recipient country. In addition, the total number of export applications denied for each recipient, and the relevant criteria used, were again reported. In a further boost to transparency, Italy, Portugal, Spain, Sweden and the UK included a breakdown of their denials, and in some cases their denial justifications, by geographical region. However, the value of this information is debatable. In all cases, the sum of the denials listed in each region is less than the figure given for the total number of denials issued. For instance, Italy lists 13 denials for countries in South America, 3 for North-East Asia and 18 for non-EU European states, while the total number of denials reported was 71.

Mixed progress was made on two obstacles hindering the production of a more complete and transparent report—the readiness of states to report data on all the categories specified, and the compatibility of the submitted data. States have agreed to provide ‘data, broken down by recipient country, on the number and value of licences granted and the value of arms exports (if avail-

¹¹⁹ The usefulness of the UNROCA in tackling terrorism and crime, as well as the danger of failure because of lack of agreement to improve the UNROCA significantly, is discussed in Wezeman, S. T., *The Future of the United Nations Register of Conventional Arms*, SIPRI Policy Paper no. 4 (SIPRI: Stockholm, June 2003), available at URL <<http://editors.sipri.se/recpubs.html>>.

¹²⁰ Council of the European Union, ‘Fifth Annual Report according to Operative Provision 8 of the European Code of Conduct on Arms Exports’, Brussels, 26 Nov. 2003. Both this report and the Code of Conduct are reproduced on the SIPRI Internet site at URL <<http://projects.sipri.se/expcon/eucode.htm>>.

able).¹²¹ In contrast to previous years, France and Germany failed to submit data on the value of their national exports. As noted in the report,¹²² only 8 countries out of a possible 15 submitted data on both the value of their export licences and their arms exports. The reasons for this failure range from confidentiality and the absence of a tradition of collecting certain types of data to, as in the cases of France and Germany, a failure to prepare the information on time. For the first time, Austria submitted data on both the value of licences granted and the value of actual exports. Prior to a 2001 change in domestic legislation, Austria had been restricted to submitting only data on licences granted.¹²³

The Austrian case also serves to highlight the issue of data incompatibility. Because of the system of data collection and transmission employed by the Austrian Government, the figure for Austrian arms exports relates only to 'war material', as defined in the 1977 Austrian War Material Regulation.¹²⁴ Hence, the value of 'non-war material' exports is not given, thereby raising questions over the compatibility of Austrian data with that of other reporting countries.¹²⁵ Austria has indicated that plans are in place to improve data collection techniques, which will allow it to report on the value of 'non-war material' exports.¹²⁶ Similarly, Germany's export figures are restricted to war weapons as defined in the German War Weapons List.¹²⁷ The EU report acknowledges the ongoing problem of data compatibility and the lack of a uniform standard.¹²⁸

The problems surrounding categories of data submitted and the compatibility of that data may be exacerbated by the accession of Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia to the EU on 1 May 2004. All have committed themselves to abiding by the principles laid down in the EU Code of Conduct obliging them to transmit transfers data from the date of accession onwards for publication in future reports.¹²⁹ However, the issues of confidentiality, capacity and political will that have surrounded discussions over the production of national reports may hinder the transmission of complete and comparable data.

¹²¹ Council of the European Union (note 120), p. 21.

¹²² Council of the European Union (note 120), p. 4.

¹²³ Austrian Government, 'Report on the Export of Arms by the Republic of Austria for the year 2000, pursuant to paragraph 8 of the operative provisions of the EU Code of Conduct for Arms Exports', 2001, p. 2.

¹²⁴ Council of the European Union (note 120), p. 24.

¹²⁵ In addition, the Austrian figure for the value of export licences issued relates to 'all items listed on the "Common List of Military Equipment covered by the EU Code of Conduct on Arms Exports" other than "war material"'. Council of the European Union (note 120), p. 24.

¹²⁶ Senior Austrian Government official, Private communication with the authors, 15 Dec. 2003.

¹²⁷ Council of the European Union, 'Fourth Annual Report according to Operative Provision 8 of the European Code of Conduct on Arms Exports', document 13779/02, Brussels, 11 Nov. 2002, p. 19.

¹²⁸ Council of the European Union (note 120), p. 24.

¹²⁹ See the European Commission's 2002 and 2003 progress reports on candidate countries, available at URL <<http://europa.eu.int/comm/enlargement/report2002>> and URL <http://europa.eu.int/comm/enlargement/report_2003>, respectively.

National transparency

There were few new developments in the level of public transparency on arms transfers during 2003.¹³⁰ In a step that may lead to an increase in levels of transparency, in December 2003 the UN General Assembly encouraged states to 'provide, on a voluntary basis, information to the Secretary-General on their national legislation, regulations and procedures on the transfer of arms, military equipment and dual-use goods and technology'.¹³¹

Belarus produced a national report for the second time, which repeated data submitted to the UNROCA as part of the process introduced by the 2000 OSCE Document on Small Arms and Light Weapons.¹³² Among countries in the EU that have been producing national reports for several years, the *French* report for exports in 2001, published in June 2003, contains several improvements compared to previous editions. For example, detailed information is provided on each recipient country, including the values of licenses issued and goods exported broken down in accordance with the EU Common List of Military Equipment.¹³³ The *German* report on military exports in 2002, published in December 2003, included detailed tables on licences granted for the export of small arms and small arms ammunition. In addition to the number of licences granted, the tables give information on their value and the number of items covered.¹³⁴ In June 2003 the German Government also published its submission to the OSCE pursuant to the Document on Small Arms and Light Weapons, giving details of imports and exports of SALW in 2002.¹³⁵

In June 2003 *Israel* reversed its previous policy of releasing export data through background briefings by publishing official export licence figures for the past decade.¹³⁶ The Israeli MOD indicated that this policy shift was motivated by a desire to end 'erroneous perceptions' of its defence exports, but refused to break the figures down either by destination or by weapon category, citing reasons of commercial confidentiality.¹³⁷

¹³⁰ Government and industry statistics on annual values of national arms exports are available on the SIPRI Internet site at <http://projects.sipri.se/armstrade/at_gov_ind_data.html>. This section focuses exclusively on issues of public transparency, i.e., information released in an unrestricted manner to the general public. Information released to parliamentary committees or other governments is not examined.

¹³¹ UN General Assembly Resolution 58/42, 17 Dec. 2003.

¹³² The OSCE Document on Small Arms and Light Weapons (SALW Document) was adopted at the 308th Plenary Meeting of the OSCE Forum on Security Cooperation on 24 Nov. 2000. It is reproduced in *SIPRI Yearbook 2001: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2001), pp. 590–98.

¹³³ French Ministry of Defence, *Rapport au Parlement sur les exportations d'armement de la France en 2001* [Report to Parliament on French arms exports in 2001], June 2003, URL <<http://www.defense.gouv.fr/actualites/dossier/d163/accueil.htm>>.

¹³⁴ Bericht der Bundesregierung über ihre Exportpolitik für konventionelle Rustungs Güter im Jahre 2002 [Report of the Federal Government on its export policy for conventional armaments in the year 2002], Berlin, 17 Dec. 2003.

¹³⁵ German Foreign Office, Information Exchange Pursuant to the OSCE Document on Small Arms and Light Weapons, Annual Report 2003, 30 June 2003, URL <http://www.auswaertiges-amt.de/www/de/aussenpolitik/friedenspolitik/abr_und_r/kleinwaffen_html>.

¹³⁶ 'Israel now in top five of defense exporters', *Jerusalem Post*, 23 Nov. 2003.

¹³⁷ Opall-Rome, B., 'Israel unveils improved weapon export figures', *Defense News*, 16 June 2003, p. 12.

There were no national reports from *the Czech Republic* and *Poland*, despite past assurances that they would be published.¹³⁸ Both countries have reiterated their intention to produce a report in 2004. Reasons cited for the Czech delay include a lack of capacity and disputes between ministries over the competing demands of transparency and commercial confidentiality.¹³⁹ However, the Czech Republic did publish a report on the export, import and possession of SALW for the third consecutive year.¹⁴⁰ *Estonia* has stated that it will produce its first public report in early 2005.¹⁴¹

V. Conclusions

The downward trend in major arms transfers as measured by the SIPRI trend-indicator value appears to have been reversed. In both 2001 and 2003, after a consistent decline between 1998 and 2000, there were clear increases in the volumes of major weapons delivered. Russia and the USA remain the major suppliers. Their main recipients were China and India (in the case of Russia) and Taiwan, Egypt, the UK, Greece, Turkey and Japan (in the case of the USA). A continued increase in US arms transfers will influence the global trend. However, domestic factors indicate that the level of Russian arms transfers is unlikely to remain high for much longer. The future is uncertain for the other major suppliers because of international competition and continuing uncertainty about the future potential of European development and production. Relatively small suppliers could achieve short-term importance, as illustrated by Canada and Uzbekistan in 2003.

Events in Iraq in 2003 do not seem to have had a strong immediate impact on orders for or deliveries of major conventional weapons. They seem instead to have supported decisions already made as a result of the war in Afghanistan. The operation in Iraq may also have been carried out in a way that was beyond what most countries regard as relevant to their own defence policy, military strategy or equipment needs. That said, there are likely to be orders for new weapons such as precision-guided BVR missiles, ABM systems and UAVs. One type of weapon system in particular where future transfers depend on the balance between restrictions and permissions is MANPADS. Since the war in Afghanistan they have been high on the international control agenda and in 2003 were included among missiles and missile launchers to be reported in the UNROCA in the future. However, they may also be in demand because they were among the more effective anti-aircraft weapons in Afghanistan and Iraq.

¹³⁸ See Hagelin *et al.* (note 7); and Hagelin *et al.* (note 2), p. 464.

¹³⁹ 'Transparency International faults lack of controls over Czech arms exports', *Lidove Noviny* (Prague), 7 Oct. 2003, in FBIS-EEU-2003-1009, 10 Oct. 2003.

¹⁴⁰ Czech Ministry of Foreign Affairs, 'Information about the Czech Republic's approach to international negotiations on the issue of small arms and light weapons and about the volume of production, exports, and imports and the numbers of weapons among holders of arms permits and licences in the Czech Republic in 2002', URL <<http://www.czechembassy.org/wwwo/mzv/default.asp>>.

¹⁴¹ Raba, T., Estonian Ministry of Foreign Affairs, Communication with the authors, 11 Dec. 2003.