

6. Arms production

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I. Introduction

In 2008 the world's 100 largest arms-producing companies—the SIPRI Top 100—maintained the upward trend in their arms sales, which reached \$385 billion.¹ While companies headquartered in the United States again dominated the Top 100, for the first time a non-US headquartered company registered the highest level of arms sales—BAE Systems of the United Kingdom.² The conflicts in Afghanistan and Iraq continued to heavily influence sales of military equipment such as armoured vehicles, unmanned aerial vehicles (UAVs) and helicopters in 2008. At the same time, sales registered by military services companies continued to grow, as did the arms sales of Russian companies to both domestic and foreign customers.

Following peak levels earlier in the decade, the number of large transnational mergers and acquisitions fell again in 2009. There was, however, more consolidation in the Israeli, Russian and US industries as well as a continued pattern of arms-producing companies diversifying into the security industry. Even though more than a year has passed since the onset of the global financial crisis and economic recession, many arms-producing companies continued to increase arms sales in 2009.

Section II of this chapter presents and analyses the main trends in the SIPRI Top 100 arms-producing companies for 2008. Section III covers major merger and acquisition activity among arms-producing companies in 2009. Drawing on a sample of company financial reports from 2009 and government strategies, section IV discusses the impact of the financial crisis and the ensuing economic downturn on the arms industry. Section V concludes the chapter. Appendix 6A lists the SIPRI Top 100 arms-producing companies in 2008, and appendix 6B lists the major acquisitions within Organization for Economic Co-operation and Development (OECD) arms industries in 2009.

¹ The delay in publication of the accounts of many of the companies discussed here means that 2008 is the most recent year for which arms sales figures are available. Discussion of merger and acquisition activity in this chapter refers to developments during 2009.

² The internationalization of the arms-producing industry means that companies based in one country often belong to a company or group with headquarters in another country. In this chapter, a country designation refers to the location of a company's headquarters.

Table 6.1. Trends in arms sales of companies in the SIPRI Top 100 arms-producing companies, 2002–2008

	2002	2003	2004	2005	2006	2007	2008	2002–2008
<i>Arms sales at current prices and exchange rates</i>								
Total (\$ b.)	195	235	274	289	312	346	385	
Change (%)		20	17	5	8	11	11	97
<i>Arms sales at constant (2008) prices and exchange rates</i>								
Total (\$ b.)	263	295	324	331	346	362	385	
Change (%)		12	10	2	5	5	6	46

Note: The figures in this table refer to the companies in the SIPRI Top 100 in each year, which means that they refer to a different set of companies each year, as ranked from a consistent set of data. E.g. the figures shown above for 2007 differ from those in table 6.2.

Source: Appendix 6A; and the SIPRI Arms Industry Database.

II. The SIPRI Top 100 arms-producing companies, 2008³

The total arms sales of the SIPRI Top 100 arms-producing companies in 2008 (outside China) increased by \$39 billion to reach \$385 billion. The total arms sales of the Top 100 have increased each year since 2002 and by a total of 84 per cent in real terms (see table 6.1).

As in previous years, US companies led in both the number of companies in the Top 100 and the share of total arms sales for 2008, followed by West European companies (see table 6.2). However, the country-based composition of the Top 100 has changed in some significant ways. For the first time since the initial SIPRI Top 100, for 1988, a non-US company heads the list: BAE Systems of the UK.⁴ In addition, a Russian company—Almaz-Antei—is among the 20 largest arms-producing companies for the first time.⁵ No Australian-owned company appears in the SIPRI Top 100 for 2008 follow-

³ The companies in the SIPRI Top 100 account for the majority of the global financial value of military goods and services—in particular, high-technology systems and services. Because of a lack of comparable financial data, the SIPRI Top 100 does not cover all arms-producing countries. However, with a few exceptions, the volume of arms production in omitted countries is believed to be relatively small. Chinese companies would almost certainly appear in the Top 100 (and probably in the top 50) if satisfactory data were available. Apart from the omission of China, analysis of the companies in the Top 100 is sufficient to capture the major trends in the global arms industry.

SIPRI data on arms-producing companies is revised on an on-going basis when improved data is available. For this reason, it is not possible to make a strict comparison between editions of the SIPRI Yearbook. In addition, coverage may differ due to problems of obtaining data to make satisfactory estimates for all companies every year. As a result the data used here on the SIPRI Top 100 for 2007 may differ from that published in *SIPRI Yearbook 2009*, even though the data set used for each edition of the Yearbook is consistent as far as is possible across countries and over time.

⁴ For the 1988 SIPRI Top 100 see Anthony, I. et al., 'Arms production', *SIPRI Yearbook 1990*, pp. 325–31.

⁵ SIPRI has only collected data on Russian arms-producing companies since 2002. Given the state of the Russian arms industry following the end of the cold war, it is unlikely that a Russian company would have reached the top 20 in arms sales prior to 2002.

ing BAE Systems' acquisition of Tenix Defence Systems in early 2008.⁶ Hewlett-Packard entered the Top 100 following its acquisition of EDS, a former Top 100 arms-producing company. Some other new entrants at the bottom of the Top 100—such as Shaw Group of the USA and Uralvagonzavod of Russia—had arms sales close to the lower-tier Top 100 arms-producing companies in previous years.

BAE Systems

BAE Systems' move to first place in the Top 100 is notable for a variety of reasons. It is a UK-based company, but its arms sales rely on production that takes place in a number of locations outside the UK, including the USA.⁷ In 2008 it generated £9.4 billion (\$17.3 billion) in sales in the USA, compared with £3.4 billion (\$6.25 billion) in the UK and £5.7 billion (\$10.5 billion) elsewhere; indeed, BAE's British revenues fell between 2007 and 2008, while its US revenues increased.⁸ Its two largest operating groups (Electronics, Intelligence & Support and Land & Armaments) are headquartered in the USA. In 2008 these two groups contributed 59 per cent of the company's total sales—up from 47 per cent in 2007—and they had 55 200 employees worldwide, with 46 900 in the USA. In the UK, BAE had a total of 32 800 employees.⁹ In 2008 BAE Systems ranked fourth in the list of largest US Department of Defense (DOD) contractors, up from sixth in 2007; approximately 43 per cent of the company's consolidated revenues from DOD contracts was generated by the two US-based operating groups in 2008.¹⁰ Recent acquisitions elsewhere have also contributed to BAE's revenue growth, demonstrating the importance of the company's other home markets. For example, the Tenix acquisition made BAE Systems the largest arms producer in Australia.

Despite this growth, the past few years have been turbulent for BAE Systems, which has been facing allegations of bribery and corruption in

⁶ Two international subsidiaries located in Australia—BAE Systems Australia and Thales Australia—would rank in the Top 100 if they were independent companies. See Appendix 6A. The 5 largest arms producers in Australia are now foreign owned.

⁷ BAE Systems refers to those countries in which it has a significant manufacturing capability as 'home markets'. With the addition of India in 2009, BAE has 7 home markets: Australia, India, Saudi Arabia, South Africa, Sweden, the UK and the USA. BAE Systems, *Annual Report 2008: Leveraging Global Capability* (BAE Systems: London, [2009]), p. 16; and BAE Systems, 'BAE Systems establishes India advisory board confirming India as key strategic focus', Press release, 8 Sep. 2009, <http://www.baesystems.com/Newsroom/NewsReleases/autoGen_1098991439.html>.

⁸ BAE Systems, *Annual Report 2008* (note 7), p. 118. BAE attributes 95% of its 2008 total sales to arms sales.

⁹ BAE Systems, *Annual Report 2008* (note 7), pp. 16, 35, 36, 38, 40, 118. Of these, 30 200 are employed by the UK-based operating group Programmes & Support.

¹⁰ 'Contracts from Dept. of Defense (FY 2008)', USAspending.gov, <http://www.usaspending.gov/fpds/fpds.php?maj_agency_cat=97&fiscal_year=2008>; and BAE Systems, *Annual Report 2008* (note 7), p. 118.

Table 6.2. Regional and national shares of arms sales for the SIPRI Top 100 arms-producing companies, 2008 compared to 2007

Arms sales figures are in US\$ b., at current prices and exchange rates. Figures do not always add up to totals because of the conventions of rounding. Chinese companies are not included due to a lack of comparable and sufficiently accurate data.

Number of companies	Region/ country ^a	Arms sales (\$ b.)		Change in arms sales, 2007–08 (%)		Share of total Top 100 arms sales, 2008 (%)
		2008	2007 ^b	Nominal ^c	Real ^d	
45	North America	230.6	206.2	12	8	60.0
44	USA	229.9	205.7	12	8	59.8
1	Canada	0.7	0.6	19	16	0.2
34	Western Europe	122.1	108.6	12	8	31.7
11	United Kingdom	49.7	45.8	8	13	12.9
7	France	23.2	23.9	-3	-12	6.0
1	Trans-European ^e	17.9	13.1	37	24	4.7
4	Italy	15.2	11.6	31	18	4.0
5	Germany	8.0	7.4	9	-1	2.1
1	Sweden	3.0	2.8	8	2	0.8
2	Spain	2.9	2.3	27	14	0.7
1	Switzerland	0.8	0.6	31	15	0.2
1	Norway	0.7	0.5	37	27	0.2
1	Finland	0.7	0.6	5	-6	0.2
7	Eastern Europe	10.8	8.1	34	14	2.8
7	Russia	10.8	8.1	34	14	2.8
14	Other	21.1	16.9	25	13	5.5
4	Japan ^f	7.0	4.8	46	26	1.8
4	Israel	6.9	5.5	25	5	1.8
3	India ^g	4.2	3.7	12	9	1.1
2	South Korea	1.8	1.7	3	17	0.5
1	Singapore	1.3	1.1	16	6	0.3
100	Total	384.6	339.7	13	8	100.0

^a Figures for a country or region refer to the arms sales of the Top 100 companies headquartered in that country or region, including those in its foreign subsidiaries. They do not reflect the sales of arms actually produced in that country or region.

^b Arms sales figures from 2007 refer to companies in the SIPRI Top 100 for 2008 and not to the companies in the Top 100 from 2007.

^c This column gives the change in arms sales 2007–2008 in current US dollars.

^d This column gives the change in arms sales 2007–2008 in constant (2008) US dollars.

^e The company classified as trans-European is EADS. See appendix 6A.

^f Figures for Japanese companies are based on contracts with the Japanese Ministry of Defence.

^g Figures for India include a rough estimate for Ordnance Factories.

Source: Appendix 6A.

connection with arms contracts in Africa, the Middle East, and Central and Eastern Europe. Both the British Serious Fraud Office (SFO) and the US Department of Justice (DOJ) have investigated these deals.¹¹ In February 2010 the company reached a ‘ground breaking global agreement’ with the SFO and the DOJ: it pleaded guilty in the UK to a charge of ‘breach of duty to keep accounting records in relation to payments made to a former marketing adviser in Tanzania’ and in the USA to a charge of ‘conspiring to make false statements . . . in connection with certain regulatory filings and undertakings’, avoiding charges related to bribery and corruption.¹² The company agreed to pay fines totalling £30 million (\$55 million) in the UK and \$400 million in the USA. Through these settlements, BAE Systems reduced the risk that it will be barred from bidding on military contracts in the UK and the USA. However, while the US State Department determined the impact of the DOJ deal on export controls, it placed a temporary administrative hold on most export licence applications from BAE.¹³ While BAE has denied the allegations of bribery and corruption, advocacy groups in the UK challenged the settlements.

Companies whose arms sales increased most in 2008

Thirteen companies increased their arms sales by more than \$1 billion in 2008 (compared with 12 in 2007) and 23 increased these sales by more than 30 per cent (compared with 25 in 2007), reflecting overall trends in military expenditure and procurement (see table 6.3).¹⁴ In contrast, only six companies in the SIPRI Top 100 had decreased arms sales in 2008. Two of these companies—SAFRAN of France and Boeing of the USA—experienced decreases of more than \$1 billion.

Year-on-year changes measured in current dollars (as shown in table 6.3) are often significantly distorted by currency fluctuations. The discrepancy between the nominal and real-terms changes in tables 6.1 and 6.2 illustrates this effect. In 2008, in particular, a strong euro and yen against a weakened dollar led to an exaggeration of the nominal increase in the arms sales of

¹¹ On these and similar allegations see ‘The BAE files’, *The Guardian*, <<http://www.guardian.co.uk/world/bae>>; and Raphael, M., ‘Investigating and prosecuting fraud & corruption in the international business environment’, Peters & Peters, 3rd Annual Fraud and Corruption Summit 2009, Brussels, 18–20 Mar. 2009, <<http://www.petersandpeters.com/news/articles.php>>.

¹² British Serious Fraud Office, ‘BAE Systems plc’, Press release, 5 Feb. 2010, <<http://www.sfo.gov.uk/press-room/latest-press-releases/press-releases-2010/bae-systems-plc.aspx>>; and BAE Systems, ‘BAE Systems plc announces global settlement with United States Department of Justice and United Kingdom Serious Fraud Office’, Press release, 5 Feb. 2010, <http://www.baesystems.com/Newsroom/NewsReleases/autoGen_1101517013.html>.

¹³ Pfeifer, S. and Kirchgassner, S., ‘US grounds BAE export applications’, *Financial Times*, 8 Mar. 2010.

¹⁴ Six companies—EADS, Navistar, Finmeccanica, Almaz-Antei, AM General and ITT—experienced both types of increase. On military expenditure and procurement see also chapters 5 and 7 in this volume.

Table 6.3. Companies in the SIPRI Top 100 with the largest increases in arms sales in 2008

Figures are in US\$ m., at current prices and exchange rates. The percentage change measures the nominal change in arms sales.

Rank, 2008	Company	Country	Sector	Arms sales (\$ m.)		Change, 2007–2008	
				2008	2007	\$ m.	%
<i>Companies with the largest absolute increase in arms sales (by more than \$1 b.)</i>							
7	EADS	Trans-Eur.	Ac El Mi Sp	17 900	13 100	4 800	36.6
20	Navistar	USA	MV	3 900	370	3 530	954.1
8	Finmeccanica ^d	Italy	A Ac El MV Mi SA/A	13 240	9 850	3 390	34.4
1	BAE Systems	UK	A Ac El MV Mi SA/A Sh	32 420	29 860	2 560	8.6
18	Almaz-Antei	Russia	Mi	4 340	2 780	1 560	56.1
4	Northrop Grumman	USA	Ac El Mi Ser Sh Sp	26 090	24 600	1 490	6.1
6	Raytheon	USA	El Mi	21 030	19 540	1 490	7.6
10	Thales	France	A El MV Mi SA/A Sh	10 760	9 350	1 420	15.1
19	AM General	USA	MV	4 040	2 670	1 370	51.3
16	ITT Corporation	USA	El	5 170	3 850	1 320	34.3
5	General Dynamics	USA	A El MV SA/A Sh	22 780	21 520	1 260	5.9
11	United Technologies	USA	Ac El Eng	9 980	8 760	1 220	13.9
12	SAIC	USA	Ser Comp(MV)	7 350	6 250	1 100	17.6
<i>Companies with the largest relative increase in arms sales (by more than 30%)</i>							
20	Navistar	USA	MV	3 900	370	3 530	954.1
53	Kawasaki Heavy Industries	Japan	Ac Eng Mi Sh	1 480	580	896	155.2
46	DynCorp	USA	Ser	1 860	900	962	106.7
52	Mitsubishi Electric	Japan	El Mi	1 510	820	689	84.1
72	Shaw Group	USA	Ser	800	450	351	77.8
43	Cobham	UK	Comp(Ac El)	1 910	1 220	690	56.6
18	Almaz-Antei	Russia	Mi	4 340	2 780	1 560	56.1
63	NEC	Japan	El	950	610	341	56.0
70	VSE Corp.	USA	Ser	830	540	294	54.6
19	AM General	USA	MV	4 040	2 670	1 370	51.3
55	Force Protection	USA	MV	1 330	890	440	49.4
90	Uralvagonzavod	Russia	MV	640	460	180	38.8
76	Kongsberg Gruppen	Norway	El Mi SA/A	740	540	200	37.0
7	EADS	Trans-Eur.	Ac El Mi Sp	17 900	13 100	4 800	36.6
23	Textron	USA	Ac El Eng MV	3 420	2 510	910	36.3
45	Navantia	Spain	Sh	1 880	1 390	490	35.3
41	Serco	UK	Ser	1 950	1 440	510	35.4
16	ITT Corp.	USA	El	5 170	3 850	1 320	34.3
51	Rafael	Israel	Ac Mi SA/A Oth	1 530	1 140	390	34.2
8	Finmeccanica ^d	Italy	A Ac El MV Mi SA/A	13 240	9 850	3 390	34.4

Rank, 2008	Company	Country	Sector	Arms sales (\$ m.)		Change, 2007–2008	
				2008	2007	\$ m.	%
36	Oshkosh Corp.	USA	MV	2 070	1 570	500	31.8
31	Elbit Systems	Israel	El	2 520	1 910	610	31.9
74	RUAG	Switzerl.	A Ac Eng SA/A	760	580	180	31.0

A = artillery; Ac = aircraft; El = electronics; Eng = engines; Mi = missiles; MV = military vehicles; SA/A = small arms/ammunition; Sh = ships; Sp = space; Ser = services; Oth = other; Comp() = components, services or anything else less than final systems in the sectors within the parentheses—used only for companies that do not produce final systems.

^a Finmeccanica's figures are based on pro forma results for the acquisition of DRS Technologies as if DRS had been acquired on 1 Jan. 2008.

Source: Appendix 6A.

some companies, such as Cobham and EADS. The effect is particularly noticeable in the cases of Italian and Japanese companies in the Top 100 (see table 6.2).

However, much of the growth shown in table 6.3 reflects actual increases in arms sales. There are several factors behind these increases. First, and most significantly, was military equipment procurement for the conflicts in Afghanistan and Iraq. Second, the sales of companies providing military services continued to increase, also partly in relation to the conflicts in Afghanistan and Iraq. Third, Russian companies benefited from government support of the arms industry and force modernization and from increased arms sales abroad.

Separately from these trends, other notable increases in arms sales include the \$5 billion increase by the trans-European company EADS, in large part due to higher tanker sales and revenues related to the delayed A400M transport aircraft programme.¹⁵

Military equipment companies: armoured vehicles and unmanned aerial vehicles¹⁶

Armoured vehicle and UAV sales and contracts maintained their strength in 2008. For the fourth consecutive year, many of the companies that produce armoured vehicles saw high growth rates in their revenues. Of the 23 companies with arms sales increases of 30 per cent or more, 5 primarily produce armoured vehicles.

¹⁵ EADS applied accounting methods to the A400M programme that benefited its revenue line. EADS, *EADS Annual Review 2008: We Have What It Takes* (EADS: Leiden, [2009]), p. 44.

¹⁶ UAVs are also referred to as unmanned aircraft systems (UASs), a term that encompasses the entire system, not just the aircraft.

Four of these five companies are headquartered in the USA, and the growth in their sales reflects the impact of the Afghanistan and Iraq conflicts on armoured vehicle purchases by that country. The largest cause of hostile deaths and injuries of US and other foreign armed forces in Afghanistan and Iraq is explosive devices, which can be countered by the use of armoured vehicles.¹⁷ The US armed forces are upgrading and replacing armoured vehicles due to wear and tear and loss in the conflicts. Most of the armoured vehicles that the USA has ordered are mine-resistant ambush-protected (MRAP) vehicles, Joint Light Tactical Vehicles (JLTVs) and High Mobility Multipurpose Wheeled Vehicles (HMMWVs).¹⁸

Another factor contributing to the increase in sales of armoured vehicles is a more general replacement of national fleets. For example, Russia has started purchasing armoured vehicles in an effort to modernize its inventories.¹⁹

Two companies that manufacture armoured vehicles moved into the top 20 arms producers: Navistar and AM General Corporation. Due to \$4 billion in sales of MRAP all-terrain vehicles (M-ATV) to the US DOD, Navistar had by far the largest relative increase in arms sales in 2008—954 per cent—and it jumped into the Top 100 at 20th place. Another armoured vehicle manufacturer, Force Protection, had a near 50 per cent increase in sales, although the increase was less than \$500 million.²⁰

Other companies in the Top 100 with broader ranges of products also increased their arms sales as a result of growth in armoured vehicle sales. For example, partly because of armoured vehicle contracts, the arms sales of BAE Systems, General Dynamics, SAIC and Thales each increased by over \$1 billion and those of Textron by 36 per cent.²¹ In addition, suppliers

¹⁷ According to US DOD figures, 61% of the deaths and 65% of the injuries of US military personnel in Afghanistan and Iraq caused by hostile actors were due to explosive devices. US Department of Defense, Statistical Information Analysis Division, 'Global war on terrorism by reason October 7, 2001 through January 2, 2010: weaponry, explosive devices', <<http://siadapp.dmdc.osd.mil/personnel/CASUALTY/castop.htm>>.

¹⁸ Total funding for US Overseas Contingency Operations was set at \$23.9 billion, including funds allocated to MRAPs and UAVs. National Defense Authorization Act for Fiscal Year 2010, US Public Law no. 111-84, signed into law on 28 Oct. 2009, <<http://thomas.loc.gov/cgi-bin/query/z?c111:H.R.2647:>>.

¹⁹ Kupriyanova, A. and Irtegov, I., 'Defended with state orders: focus on helicopters', URALSIB Capital, Moscow, 6 July 2009, <http://www.ursibcap.ru/products/download/090706_Defense_Sector_Update.pdf?docid=7936&lang=en>. See also section IV below.

²⁰ Force Protection first entered the Top 100 in 2007 as a result of armoured vehicle sales.

²¹ BAE Systems attributes like-for-like growth to the USA's demand for armoured vehicles. General Dynamics' increase in arms sales stemmed from refurbishment of armoured vehicles worn out in the war zones as well as the production of new vehicles, particularly M-1 Abrams tanks and MRAPs. SAIC integration of communication systems into MRAPs is a leading contributor to its growth. Increased sales in electronic and warfare systems, in part in relation to those integrated into the Bushmaster armoured vehicle, contributed to Thales' arms sales growth. Textron produces an average of 50 armoured vehicles a month. BAE Systems, *Annual Report 2008* (note 7), p. 29; General Dynamics, *Annual Report 2008* (General Dynamics: Falls Church, VA, [2009]), p. 5; SAIC, *Form 10-K Annual Report under Section 13 or 15(d) of the Securities and Exchange Act of 1934 for the Fiscal Year*

of components for land systems increased their sales. For example, sales by Cobham and SAIC of radios and electronic warfare systems—products that are integrated into MRAPs and explosive device detection equipment used in Afghanistan and Iraq—were particularly strong.²²

Competitions for contracts for armoured and logistical vehicles remain crowded by bidding companies because these contracts are large but few in number. This can contribute to tension in the bidding process. For example, in 2008 the US Army chose the US company Oshkosh for a contract potentially worth \$3.5 billion for the supply of medium technical vehicles (known as the family of medium tactical vehicles, FMTV). However, BAE Systems and Navistar protested and subsequently secured a recommendation from the US Government Accountability Office (GAO) that the US Army reconsider its choice based on these two companies' past performances and capabilities.²³ In another example, Häggglunds, a Swedish subsidiary of BAE Systems, appealed against the award to Patria of Finland of a Swedish order for armoured vehicles worth \$340 million. The bidding process was found to be unfair and non-transparent and as a result the international tender was relaunched.²⁴ The level of competition is likely to remain high as long as the conflicts in Afghanistan and Iraq continue because armoured vehicles are critical to the fighting there. The US Army's plans to implement a troop surge in Afghanistan will only heighten demand for armoured vehicles.²⁵

The UAV market remained strong in 2008. Major UAV producers include Northrop Grumman and Textron of the USA and Elbit Systems and Israel Aerospace Industries of Israel. It is often unclear how much of a company's UAV sales are to the military market specifically, especially since UAV equipment can have both military and civilian use. For example, Textron reported that a key factor in its higher arms sales in 2008 was its 2007 acquisition of AAI, one of the primary suppliers of UAVs to the US military.²⁶ The company also reported that AAI was the primary contrib-

Ended January 31, 2009 (US Securities and Exchange Commission: Washington, DC, 27 Mar. 2009), p. 28; Thales, *Annual Report 2008* (Thales: Neuilly-sur-Seine, 2009), p. 11; and Textron, *Annual Report 2008* (Textron: Providence, RI, 2009), p. 4.

²² Cobham, *Annual Report and Accounts 2008* (Cobham: Wimborne, 2009), p. 5; and SAIC (note 21), p. 28.

²³ US Government Accountability Office (GAO), 'Decision on bid protest by Navistar Defense and BAE Systems regarding army truck award to Oshkosh', Press statement, 14 Dec. 2009, <http://www.gao.gov/press/navistar_2009dec14.html>.

²⁴ O'Dwyer, G., 'FMV re-runs AMV tender', *Defense News*, 7 Jan. 2010.

²⁵ 'FMTV 2010–2015: Oshkosh wins the re-compete', *Defense Industry Daily*, 14 Dec. 2009, <<http://www.defenseindustrydaily.com/FMTV-2010-2015-Oshkosh-Wins-The-Re-Compete-05744/>>; and Roosevelt, A., 'FMTV contract awards top \$3 billion to date in 2008', *Defense Daily*, 25 Nov. 2008, <[http://www.defensedaily.com/publications/dd/FMTV-Contract-Awards-Top-\\$3-Billion-To-Date-In-2008_4844.html](http://www.defensedaily.com/publications/dd/FMTV-Contract-Awards-Top-$3-Billion-To-Date-In-2008_4844.html)>.

²⁶ Textron, *Form 10-K Annual Report under Section 13 or 15(d) of the Securities and Exchange Act of 1934 for the Fiscal Year Ended January 3, 2009* (US Securities and Exchange Commission: Washington, DC, 26 Feb. 2009), p. 17.

utor to the increase of \$820 million in its revenue that resulted from acquisitions of new business. However, it is not certain how much of this revenue contribution came from AAI's UAV military sales because AAI has civilian government and commercial customers in addition to the US military.

One measure of activity in this segment is government contracts for UAVs for their armed forces. Contracts for UAVs from the US DOD, the largest UAV customer, were worth \$1.1 billion in 2008, up from \$690 million in 2007.²⁷ Israeli and US UAV producers dominate the market, although other countries are eager for their UAV producers to grow for both domestic consumption and export.²⁸ The UAV market is expected to continue growing in the near-to-medium term.²⁹

Military services companies

Eighteen companies in the 2008 Top 100 are categorized as military services companies.³⁰ These companies provide military services as a result of governments' outsourcing of traditional military roles to private companies.³¹ The recent increase in these companies' revenues continued in 2008: three increased their arms sales by more than 30 per cent—DynCorp International, VSE Corporation and Serco—and another three by close to 30 per cent—ManTech International Corporation, Jacobs Engineering Group and CACI International. DynCorp generated 54 per cent of its military-related revenue from business related to the Afghanistan and Iraq conflicts, while CACI International's sales to the US DOD rose by nearly 41 per cent in 2008 as a result of acquisitions of services companies.³²

A number of companies that are not primarily service companies generate a significant amount of their arms sales through their services divisions. For example, ITT Corporation reported a 50 per cent increase in sales by its Defense Electronics & Services segment in 2008. This was mostly because of the full integration of EDO Corporation—which ITT purchased

²⁷ 'Contracts search results (FY 2008)', USAspending.gov, <http://www.usaspending.gov/fpds/fpds.php?psc_cat=15&psc_sub=1550&maj_agency_cat=97&fiscal_year=2008>.

²⁸ Wezeman, S., *UAVs and UCAVs: Developments in the European Union*, Briefing paper (European Parliament: Brussels, Oct. 2007). E.g. Pakistan is set to domestically produce some of the parts for the Italian Falco UAV in order to decrease its reliance on imports and to build its internal surveillance capabilities. Bokhari, F., 'Pakistan formally launches new domestic UAV', *Jane's Defence Weekly*, 26 Aug. 2009, p. 8.

²⁹ 'Interview: Marion Blakely, President and CEO, AIA', *Defense News*, 14 Dec. 2009, p. 30. AIA is the US Aerospace Industries Association.

³⁰ In addition, VT Group became a services company in Oct. 2009 when it sold its BVT Surface Fleet subsidiary to BAE Systems.

³¹ Perlo-Freeman, S. and Sköns, E., 'The private military services industry', SIPRI Insights on Peace and Security no. 2008/1, Sep. 2008, <http://books.sipri.org/product_info?c_product_id=361>.

³² DynCorp International, *Annual Report 2009* (DynCorp International: Falls Church, VA, 2009), p. 1; and CACI International, *Form 10-K Annual Report under Section 13 or 15(d) of the Securities and Exchange Act of 1934 for the Fiscal Year Ended June 30, 2008* (US Securities and Exchange Commission: Washington, DC, 27 Aug. 2008), p. 8.

in late 2007—that resulted in ITT’s overall arms sales increase of \$1.3 billion (34 per cent).³³ Hewlett-Packard’s entry into the Top 100 stemmed from its purchase of EDS in 2008. EDS—now known as HP Enterprise Services—provides information technology (IT) services to the US and other armed forces.

Russian companies

The increase in the arms sales of the Russian companies in the Top 100 (14 per cent in real terms) was as a result of the Russian Government’s continued spending on arms procurement and arms industry development, the consolidation of the Russian arms industry and the continued growth of exports.³⁴ Almaz-Antei, producer of the S-300 and S-400 series of air defence systems, headed the Russian companies in 2008.³⁵ It has tripled its arms sales from \$960 million in 2003 to \$4.3 billion in 2008. TRV Corporation, another aerospace company, also maintained its rapid rates of growth. TRV’s arms sales more than quadrupled from \$220 million in 2004 to \$1.2 billion in 2008. Uralvagonzavod delivered more tanks to the Russian armed forces and for export than any Russian company has since 1993, increasing its armoured vehicle sales in 2008 by 39 per cent to reach \$640 million.³⁶

Despite the growth in its arms sales, the state of Russia’s arms industry remains in question.³⁷ Russia has begun importing advanced technologies for incorporation into its newly produced weapon platforms for both export and domestic recipients. It has indicated that it intends to import UAVs and advanced naval platforms to meet the demands of the Russian military and also to contribute to the modernization of its arms industry.³⁸ Following plant and city tours, President Dmitry Medvedev, Prime Minister Vladimir Putin and other Russian officials have criticized the state of the arms industry, especially in terms of technology and quality.³⁹ Furthermore, Russian arms producers face challenges from a number of its major

³³ ITT Corporation, ‘ITT reports solid 2008 fourth quarter and full-year results’, Press release, 4 Feb. 2009, <<http://www.itt.com/news/2009/0204-4q08-earnings.asp>>.

³⁴ See chapter 7, section II, in this volume; and section IV below.

³⁵ The S-300 and S-400 are also known by their US/NATO designations of SA-10 and SA-21. See also chapter 8, section III, in this volume.

³⁶ Uralvagonzavod produced 62 tanks for the Russian Ministry of Defence and 113 for export to Algeria and India. Barabanov, M., ‘Russian tank production sets a new record’, *Moscow Defense Brief*, no. 2, 2009, pp. 8–9.

³⁷ On the Russian arms industry up to 2006 see Cooper, J., ‘Developments in the Russian arms industry’, *SIPRI Yearbook 2006*.

³⁸ Russia has purchased UAVs from Israel and is in talks to purchase the French Mistral. Barabanov, M. ‘The Mistral problem’, *Moscow Defense Brief*, no. 3, 2009, pp. 2–4. See also chapter 7, section II, in this volume.

³⁹ President of Russia, ‘Excerpts from transcript of meeting on defence industry’s development’, 26 Oct. 2009, <http://eng.kremlin.ru/text/speeches/2009/10/26/2110_type82913type82917_222368.shtml>; and Russian Government, ‘Prime Minister Vladimir Putin addressed the 11th Congress of the United Russia party’, 21 Nov. 2009, <<http://www.premier.gov.ru/eng/visits/ru/8327/events/8323/>>.

Table 6.4. The largest acquisitions within OECD arms industries, 2009

Figures are in US \$m., at current prices. Companies are US-based unless stated otherwise.

Buyer company	Acquired company	Seller company	Deal value (\$ m.)
Precision Castparts Corp.	Carlton Forge Works	Privately owned	850
General Dynamics	Axsys Technologies	Publicly listed	643
BAE Systems (UK)	BVT Surface Fleet (UK)	VT Group (UK)	558
Goodrich Corp.	Atlantic Inertial Systems	J. F. Lehman & Co.	375
Woodward Governor	HR Textron	Textron	365
ManTech International	Sensor Technologies	Privately owned	242
Jacobs Engineering Group	AWE Management Ltd (UK)	British Nuclear Fuels Ltd (UK)	195
Chemring Group (UK)	Hi-Shear Technology	Publicly listed	132

Source: Appendix 6B.

recipients (including China) that are seeking to develop and increase their own production for domestic consumption and could also become rivals in established Russian export markets.⁴⁰

III. Mergers and acquisitions, 2009

In general, the pace and size of mergers and acquisitions have dropped noticeably since the peak levels a few years ago. The mega-deals of the past were non-existent in 2009 (see table 6.4 and appendix 6B).⁴¹ The acquisition of US companies by British companies slowed, while US domestic acquisitions continued.⁴² Consolidation within the Russian aerospace industry continued apace under the United Aircraft Corporation (UAC) umbrella and, in Israel, Elbit Systems further consolidated its domination of the domestic market.

Mergers and acquisitions in OECD arms industries

In 2009 all arms industry transactions within the OECD with a value known to be over \$100 million involved British or US companies; the majority of these were US national acquisitions (see table 6.4 and appendix 6B). However, more than half of the known-value acquisitions in 2009

⁴⁰ See chapter 7, section II, in this volume.

⁴¹ The most recent acquisition worth over \$1 billion was Dassault's purchase of Alcatel-Lucent's shares in Thales for €1.57 billion (\$2.14 billion), which was announced in 2008 and finalized in May 2009. Dassault Aviation, 'Dassault Aviation completes the acquisition of Alcatel-Lucent's stakes in Thales', Press release, 20 May 2009, <<http://www.dassault-aviation.com/en/aviation/press/press-kits/2009.html?L=1>>.

⁴² On British acquisitions of US companies in earlier years see Perlo-Freeman, S., 'Arms production', *SIPRI Yearbook 2009*, pp. 277–79.

had a value below \$100 million, ranging from \$13 million to \$90 million.⁴³ Almost half of these smaller acquisitions were of companies in the USA, which marks the continued trend for US and foreign companies to expand in the lucrative US market.⁴⁴ Three of the companies that were acquired in 2009 were subsidiaries of companies in the Top 100 for 2008.⁴⁵

Non-OECD consolidation and acquisitions

Outside the OECD member countries, consolidation and acquisitions in Russia and Israel are of particular note. Russia has been working for some time to consolidate and streamline its aerospace industry and, to accomplish this task, formed the United Aircraft Corporation in 2006. Although the consolidation has been slow, four companies (including military and civil aircraft companies) were further integrated into UAC in 2009: MiG Aircraft, KAPO, Aviastar and Sokol.⁴⁶ UAC also holds interests in military aircraft producers Sukhoi, Irkut and Ilyushin, among others. In April 2009 Russia completed the process of establishing a state-owned shipbuilding management company, the United Shipbuilding Corporation, which encompasses large-scale shipbuilding enterprises as well as design and construction bureaus.⁴⁷

Elbit Systems—the largest privately owned company in Israel’s arms industry—completed six acquisitions in 2009: one in the USA and five in Israel, reflecting further consolidation of the Israeli market.⁴⁸ By some accounts Elbit now owns over 90 per cent of Israel’s non-state-owned arms-producing companies.⁴⁹ As a result of earlier acquisitions bearing fruit, Elbit’s earnings doubled in 2008.⁵⁰

⁴³ There were also at least 10 deals for which the financial data was not disclosed. The majority of these involved acquisitions by large companies of smaller, privately owned companies that are expected to fill product line gaps, provide access to desired markets, etc. For details of all the deals discussed here see appendix 6B.

⁴⁴ On this phenomenon see Perlo-Freeman (note 42), pp. 275–79.

⁴⁵ VT Group sold its stake in BVT Surface Fleet to BAE Systems; Textron sold HR Textron to Woodward Governor; and QinetiQ sold its Underwater Systems to Atlas Elektronik’s UK business.

⁴⁶ ‘KAPO joins United Aircraft Corporation’, Interfax, 26 Oct. 2009; [UAC increased its share in the Ulyanovsk aviation plant ‘Aviastar-SP’ to 26.25% of shares], RIA Novosti, 27 Oct. 2009, <<http://volga.rian.ru/economy/20091027/81796201.html>> (in Russian); and ‘United Aircraft Corp buys 100% stake in MiG aircraft maker’, RIA Novosti, 23 Oct. 2009, <<http://en.rian.ru/russia/20091023/156570250.html>>.

⁴⁷ Loskutova, O., ‘JSC “United Shipbuilding Corporation”: looking into the future (Interview with corporation president Vladimir Pakhomov)’, *Maritime Market*, no. 3(29), 2009.

⁴⁸ Wagstaff-Smith, K., ‘Elbit completes purchase of BVR Systems’, *Jane’s Defence Industry*, 19 Nov. 2009.

⁴⁹ Pettibone, R., ‘Growth continues apace at Elbit Systems’, *Forecast International*, 8 Oct. 2009.

⁵⁰ Anderson, G., ‘Elbit doubles earnings in 2008 fuelled by acquisitions’, *Jane’s Defence Industry*, 11 Mar. 2009.

Acquisitions in the security industry⁵¹

In 2009 several of the arms-producing companies in the SIPRI Top 100 acquired companies in the security industry. While the term 'security industry' lacks a well-formed and universally accepted definition, the broadest sense of the term encompasses products and services as diverse as alarm systems, electronic access control and biometrics, and surveillance and security consulting.⁵² The security industry companies that were acquired in 2009 supply security-related goods and services in fields such as cybersecurity (e.g. encryption technologies), surveillance (e.g. border control integrated systems), identification (e.g. biometric technologies), detection (e.g. explosives detection) and public safety (e.g. crisis management services). While detailed financial data is lacking for many of these transactions, it seems reasonable to note that there is an emerging pattern of acquisitions of these types of companies.

Cybersecurity and intelligence were key sectors for security industry acquisitions. Boeing, DynCorp International, Harris, QinetiQ, Raytheon, SAIC and Ultra Electronics all made purchases of smaller companies that specialize in these areas.⁵³ Many of the acquired companies are located in the USA, which provides foreign purchasers with potential access to the US military market.⁵⁴ For example, both QinetiQ and Ultra Electronics of the UK purchased US cybersecurity firms to employ this strategy.⁵⁵ Other transatlantic purchases were SAFRAN's takeover of Motorola's biometric unit (to gain access to the US identification market) and of GE Security's Homeland Protection division (to benefit from the US stimulus package for security-related expenditure).⁵⁶ These acquisitions are in line with increased government demand and shifting focus to international terrorism, organized crime, illegal immigration and piracy.

These acquisition strategies build on similar activities in recent years. SAFRAN worked on reforming itself into an aerospace, defence and secur-

⁵¹ Vincent Boulanin, a guest researcher at SIPRI from École des Hautes Études de Science Sociales (EHESS), Paris, contributed to this subsection.

⁵² On the ambiguity of what comprises the security industry and the growing debate about how to measure security-related expenditure see Stevens, B. et al., *The Security Economy* (Organisation for Economic Co-operation and Development: Paris, 2004).

⁵³ Boeing purchased eXMeritus; DynCorp bought Kroll Government Services and Phoenix Consulting Group; Harris acquired Crucial Security; QinetiQ bought Cyveillance; Raytheon bought BBN Technologies; SAIC acquired Atlan; and Ultra Electronics bought Scytale.

⁵⁴ Jean-Paul Hebert of EHESS cited in Tran, P., 'European firms see growth in civil defense', *Defense News*, 4 Apr. 2008, p. 8.

⁵⁵ QinetiQ, 'QinetiQ strengthens presence in US cyber security market through acquisition of Cyveillance, Inc', Press release, 6 May 2009, <http://www.qinetiq.com/home/newsroom/news_releases_homepage/2009/2nd_quarter/cyveillance.html>; and Ultra Electronics, 'Ultra acquires US communication security business', Press release, 19 Oct. 2009, <http://www.ultra-electronics.com/press_releases.php?year=2009>.

⁵⁶ Tran (note 54).

ity company by selling off its commercial mobile phone business in 2008. Also in 2008, BAE Systems acquired Detica as a major part of its strategy to develop security sales in its various home markets. The Detica acquisition will help BAE Systems to benefit from the British Government's growing focus on intelligence and security.⁵⁷

IV. The limited impact of the financial crisis on the arms industry

The fallout from the 2008 financial crisis and the ensuing recession has been less immediate and has had a less direct impact on arms sales than experienced in other industries. While both industrial production and global trade in merchandise declined sharply in late 2008 and in 2009, and business and consumer confidence collapsed, the sales of arms-producing companies were still strong.⁵⁸ Company strategies remained broadly the same as before the crisis. The few government stimulus packages that were directed at the arms industry were relatively small compared to the overall total stimulus. Several factors insulated the arms industry from the full force of the crisis and recession, including high levels of military spending, the monopsonistic character of the arms market, and the ongoing conflicts in Afghanistan and Iraq.⁵⁹

The performance of the arms industry

It is clear from the survey in section II that the financial crisis had no negative impact on arms sales in 2008. These sales increased at roughly the same rate as in the previous year despite the global downturn in gross domestic product and in other types of industry. Overall country and regional arms shares in the SIPRI Top 100 were relatively stable year-on-year (see table 6.2), indicating that the financial crisis did not have a meaningful impact on 2008 arms sales in any particular region. Furthermore, a sample of data for 2009 indicates that arms sales continued to increase steadily around the world even in the midst of the crisis. Order books for weapons and military-related services remained largely intact. The fact that military expenditure continued to increase significantly in 2009 also indicates that demand for the goods and services of the arms industry remains largely unaffected.⁶⁰

⁵⁷ BAE Systems, *Annual Report 2008* (note 7), p. 40.

⁵⁸ On the crisis see International Monetary Fund (IMF), *World Economic Outlook: Crisis and Recovery* (IMF: Washington, DC, Apr. 2009).

⁵⁹ A monopsonistic market is one in which many suppliers compete for orders from a single buyer. In the case of a national arms industry, the single buyer in the domestic market is the national government.

⁶⁰ See chapter 5 in this volume.

There are many examples of companies with both military and non-military activities that experienced drops in their overall revenues due to cuts in commercial sales in 2009 and that are relying on the military side of their business as a stable source of income.⁶¹ These include companies in sectors such as engines, automobiles, semiconductors and construction machinery, in which companies around the globe have seen a drop in demand and, in many cases, prices also.⁶²

As expected, contracts for the Afghanistan and Iraq conflicts meant that US companies had another strong year in military sales. For example, Lockheed Martin's sales continued to rise during 2009 in such areas as mission and combat systems, tactical missile programmes, simulation and training activities, and the F-35 and C-130J aircraft programmes for both deliveries and support activities.⁶³ DynCorp International reported increases in revenues and back orders in the second half of 2009 due in particular to a ramp up of the US Army's Logistics Civilian Augmentation Program IV (LOGCAP IV) in Afghanistan and Kuwait.⁶⁴ In 2009 Oshkosh Corporation claimed significant growth in its military segment, although not enough to offset declines in its commercial segment. This increase came from military demand for new trucks and for parts and services.⁶⁵ Honeywell's early financial results for 2009 showed decreases in its aerospace sales. The company attributed the decreases to lower commercial sales which were only partially offset by strong military sales: the company continues to win large contracts from the US DOD and the British Ministry of Defence.⁶⁶

⁶¹ This finding is based on a sample of company annual reports and related news articles from the USA, Western Europe, Israel and Japan. Companies surveyed include Pratt & Whitney, Rockwell Collins, Meggitt, QinetiQ, Rolls-Royce, Thales, Rheinmetall, RUAG, Indras, Israel Aerospace Industries, Toshiba, Itochu and Japan Steelworks. The majority of examples cited here are US or West European companies because at the time of writing they were the companies that had released preliminary results for 2009. There are reports that Russian arms-producing companies are sharing the experiences described here. See e.g. 'Russian aviation industry focused on warplanes in 2009—UAC', *Interfax*, 28 Dec. 2009. On the case of Turkey see Sariibrahimoglu, L., 'Undeterred by financial crisis, Turkish defense companies plan to increase domestic arms production', *Eurasia Daily Monitor*, 27 Feb. 2009.

⁶² E.g. companies in Japan were hit by a sharp decline in semiconductor prices. See e.g. Toshiba, *Annual Report 2009* (Toshiba: Tokyo, 2009), p. 3.

⁶³ Lockheed Martin did note lower volume in other areas (e.g. the F-22 and F-16 combat aircraft programmes) although sales did not fall. Lockheed Martin, 'Lockheed Martin announces third quarter 2009 results', Press release, 20 Oct. 2009, <http://www.lockheedmartin.com/news/press_releases/2009/1020hq-3q-2009-earnings.html>.

⁶⁴ DynCorp International, *Form 10-Q Pursuant to Section 13 or 15(d) of the Securities and Exchange Act of 1934 for Quarterly Period Ended Oct. 2, 2009* (US Securities and Exchange Commission: Washington, DC, 27 Nov. 2009), p. 34.

⁶⁵ Oshkosh Corporation, *2009 Annual Report: When Experience Counts* (Oshkosh Corporation: Oshkosh, WI), p. 1. On the contested award to Oshkosh of a contract to produce medium tactical vehicles for the US Army see section II above.

⁶⁶ Honeywell, Quarterly sales reports, 1st-3rd quarters 2009, <<http://investor.honeywell.com/phoenix.zhtml?c=94774&p=irol-news>>.

In the UK, half-year results for BAE Systems showed a continued increase in the company's revenues and order book.⁶⁷ Meggitt's half-year results in 2009 showed that its military sales increased by 31 per cent while its civilian orders remained flat. The company's military sales were based on the high demand for combat systems and a new extended contract for combat training in the UK.⁶⁸ Finmeccanica of Italy registered a 30 per cent jump in revenues for the first three quarters of 2009, driven by military aeronautics and electronics, in part because DRS Technologies (which it acquired in 2008) had already beaten whole-year new order expectations for 2009.⁶⁹ SAFRAN of France had revenue and net income increases in part because of sales of military engines by its Aerospace Propulsion business.⁷⁰ Rheinmetall of Germany relied on its military segment to compensate for drops in its automotive segment.⁷¹ In addition, Krauss-Maffei Wegmann benefited through a joint venture with Rheinmetall from a €3.1 billion (\$4.6 billion) German Government contract for Puma armoured vehicles.⁷²

For other countries it is more difficult to find timely information on individual companies but, even with the poor global economic climate, national arms industries seem to be doing well overall. The Russian Government announced that, despite the financial crisis, the output of the Russian arms industry grew by 3.7 per cent in 2009.⁷³ In Australia, the aerospace sector in particular has been shielded from the crisis by military work.⁷⁴

Company strategies

By and large, arms-producing companies have not adopted any new strategies in response to the financial crisis. Rather, they have maintained the strategies developed over the past decade or so: international arms sales, business reform and diversification into other sectors. Because the USA has been by far the largest military spender and is anticipated to remain so, many of these companies have been trying to establish or expand partnerships in the USA or to complete acquisitions there in order to deal with the

⁶⁷ BAE Systems, *Half-yearly Report: Leveraging Global Capability* (BAE Systems: London, July 2009).

⁶⁸ Meggitt, 'Interim presentation for the 6 months ended 30 June 2009', 4 Aug. 2009, <<http://www.meggitt.com/?OBH=290>>.

⁶⁹ 'Strong showing', *Aviation Week & Space Technology*, 9 Nov. 2009, p. 26.

⁷⁰ SAFRAN, 'Safran reports nine-month revenue 2009', Press release, 16 Oct. 2009, <<http://www.safran-group.com/site-safran-en/finance-397/financial-publications/financial-press-releases/2009-658/article/safran-reports-nine-month-revenue?10091>>.

⁷¹ Pettibone, R., 'Rheinmetall buoyed by defense', *Forecast International*, 15 Oct. 2009.

⁷² Rheinmetall, 'Billion plus order for Rheinmetall', Press release, 6 July 2009, <<http://www.rheinmetall.de/index.php?lang=3&fid=2160>>.

⁷³ 'Russia does not need to buy arms abroad—Putin', *Interfax*, 3 Dec. 2009.

⁷⁴ Brown, M., 'Aerospace industry weathers global crisis', *ABC News*, 29 Nov. 2009, <<http://www.abc.net.au/news/stories/2009/11/29/2756484.htm>>.

economic downturn.⁷⁵ At the same time, companies have still been considering other markets such as Latin America, East Asia and the Middle East as having growth potential.

Arms-producing companies often have some leeway when developing response strategies to deal with potential financial stress such as the global financial crisis and recession. Legal budgetary processes mean that military budgets, including procurement budgets, tend to be shielded from immediate reductions. Furthermore, the arms industry generally operates on long-term contracts, which mitigate the impact of recessions and give companies time to adjust their business strategies.

Government policies

The economic rescue and stimulus packages that several governments implemented in response to the financial crisis have had varying degrees of implications for the arms industry. The arms industry has not been excluded from receiving funds from these packages and in some cases has received special treatment.⁷⁶

Russia pledged not to cut military purchases and has been trying to increase procurement even though its oil revenues fell significantly in 2009.⁷⁷ However, even without the crisis, support for the arms industry has been a longer-term pursuit of the Russian Government as it has attempted to modernize its forces. According to official reports, Russia allocated approximately 970 billion roubles (\$33 billion) to the arms industry in 2009 with more promised for 2010.⁷⁸ To meet the challenges posed by the financial crisis and recession while simultaneously encouraging the country's military modernization, the Russian Government has provided credit rate subsidies, made direct contributions to authorized capital and issued the right for companies to use state guarantees on bank credits.⁷⁹ For example,

⁷⁵ Among others, MBDA, Rheinmetall, Thales, Dassault, Honeywell, Rafael, Toshiba, Fuji Heavy Industries and Fincantieri are considering this strategy. E.g. Kongsberg (Norway) opened a US factory to assemble weapon control systems for the US market, gaining in sales and market access. Kongsberg, *Annual Report and Sustainability Report 2008* (Kongsberg Gruppen: Kongsberg, [2009]), pp. 5, 22.

⁷⁶ Poland is one example of direct economic stimulus to the arms industry, although the amounts were relatively low. 'Polish arms industry to receive crisis funds', Polish Press Agency (PAP), 22 July 2009.

⁷⁷ Gavrilov, Yu., [Instead of 'Topol'], *Rossiyskaya Gazeta*, 10 Dec. 2009 (in Russian); and Abdullaev, N., 'Russia pushes industry support through recession', *Defense News*, 7 Sep. 2009.

⁷⁸ 'Some 33bn dollars allocated for Russian defence industry in 2009—Putin', Interfax, 18 Nov. 2009; and Chuter, A. and P. Tran, 'Financial crises creates bleak spending outlook', *Defense News*, 7 Sep. 2009.

⁷⁹ 'Some 33bn dollars allocated for Russian defence industry in 2009' (note 78). Although subsidies have been provided for some of the smaller supplier companies in order to prevent bankruptcies, the majority of assistance is to the larger producers on the Russian state list of those companies eligible to receive crisis aid. 'Russia's Putin signs orders granting subsidies to struggling

Russian officials have pledged state backing of loans to arms-producing companies with export financing supported by at least Vneshekonombank and Vneshtorgbank, two Russian banks critical to the industry.⁸⁰ Early in 2009 the Russian Government proposed implementing emergency aid measures that would allow companies to negotiate longer-term raw materials contracts in order to support companies' need for flexibility in the face of price fluctuations.⁸¹ In addition, military exports are considered a key means for obtaining hard foreign currency, which is another reason why these exports receive government support.⁸²

Similarly, French leaders have been supportive of maintaining military spending and procurement. In response to the financial crisis, France committed stimulus money directly to the arms industry. The government allocated 10 per cent of its economic stimulus package to the Ministry of Defence, amounting to approximately €2.3 billion (\$3.4 billion).⁸³ Of this amount, at least €1.4 billion (\$2 billion) was designated for arms producers. However, French companies are wary that the eventual necessity of the government balancing budgets and repaying debt could jeopardize political commitments to procurement spending in the long run.⁸⁴

Germany implemented a small stimulus package in 2008 and in early 2009 a larger package worth over €50 billion (\$63 billion) with €500 million (\$634 million) for the military. Half of this amount was for construction projects while the other half was for procuring high-tech military equipment including vehicles and other equipment needed by German personnel deployed in Afghanistan, making this portion of the stimulus spending more like supplementary military spending.⁸⁵

Italy made funding cuts to all its ministries. However, part of the cuts at the Ministry of Defence is expected to be eliminated by using funds dedicated to other ministries.⁸⁶

defence enterprises', Interfax, 16 Nov. 2009; and 'List of enterprises where state will get stake is ready—minister', ITAR-TASS, 23 Mar. 2009.

⁸⁰ Makienko, K., 'Economic crisis and Russia's defense industry', *Moscow Defence Brief*, no. 1, 2009; and ['VTB Severo-Zapad' provided a loan to JSC 'Machine Building Plant Arsenal'], RIA Novosti, 9 Nov. 2009, <<http://nw.rian.ru/economy/20091109/81803119.html>> (in Russian).

⁸¹ McDermott, R., 'Russia feels pinch over arms plans', *Asia Times*, 16 Jan. 2009.

⁸² Kislov, A. and Frilov, A., 'Issues and prospects of Russian military exports', *International Affairs* (Moscow), no. 5, 2009.

⁸³ French Ministry of Defence. 'Contribution significative de la Defense au plan de relance de l'economie francaise' [Defence's significant contribution to the plan to relaunch the French economy], <http://www.defense.gouv.fr/ministre/actualite_et_dossiers/archives_a_la_une/contribution_significative_de_la_defense_au_plan_de_relance_de_l_economie_francaise>.

⁸⁴ Chuter and Tran (note 78).

⁸⁵ 'German defense to benefit from state stimulus package', Translation from German Radio, Defence Talk, 4 Mar. 2009, <<http://www.defencetalk.com/german-defense-to-benefit-from-state-stimulus-package-16466/>>; and Schulte, S., 'Coming together', *Jane's Defence Weekly*, 4 Nov. 2009, pp. 44–47.

⁸⁶ Chuter and Tran (note 78).

The US Government passed an \$800 billion economic stimulus package in early 2009. The portion of the funding allocated to the Department of Defense included projects on facilities operation and maintenance, medical facility modernization, environmental clean-up, and research, development, testing and evaluation. Procurement of weapons and military services was not included in the package.⁸⁷

Australia included a military-related component in its stimulus package; for example, it provided 246 million Australian dollars (\$206 million) to build housing for military personnel and their families, although this money goes to construction firms, not arms producers.⁸⁸ Separate from the stimulus package, the government issued a Defence White Paper which some believe could act as an economic stimulus package for the arms industry because it allows for more than 100 billion Australian dollars (\$83.9 billion) to be spent over the next decade on procurement for the armed forces.⁸⁹

China's overall stimulus package is estimated at 4 trillion yuan (\$585 billion).⁹⁰ Specific details on the package's funds for the arms industry were not provided. However, China reportedly has provided state loans totalling at least \$75 billion to companies that also produce weapons, such as the aircraft producer AVIC and the shipbuilders CSSC and CSIC.⁹¹ These loans are intended to be used by the companies to improve infrastructure and for research and development.⁹² In addition to loans, the government offered tax rebates on value added taxes to some industries, including shipbuilding.⁹³ Shipbuilding also received other types of support, such as technology upgrades and support for mergers and acquisitions within the industry.⁹⁴

⁸⁷ American Recovery and Reinvestment Act of 2009, US Public Law no. 111-5, signed into law on 17 Feb. 2009, <<http://thomas.loc.gov/cgi-bin/query/z?c111:hl>>. See also chapter 5, section VII, in this volume.

⁸⁸ Australian Government, 'Nation building: economic stimulus plan, defence housing', 2009, <<http://www.economicstimulusplan.gov.au/housing/>>.

⁸⁹ Australian Department of Defence, *Defending Australia in the Asia Pacific Century: Force 2030—Defence White Paper 2009* (Australian Government: Canberra, 2009); and 'Industry welcomes Defence White Paper', *Manufacturers' Monthly*, May 2009, <<http://www.manmonthly.com.au/Article/Industry-welcomes-Defence-White-Paper/479544.aspx>>.

⁹⁰ US Library of Congress, 'Financial stimulus plans: recent developments in selected countries', 17 Apr. 2009, <http://www.loc.gov/law/help/financial_stimulus_plan.php#China>.

⁹¹ Grevatt, J., 'China's defence industry bucks wider market downturn', *Jane's Defence Industry*, 2 Sep. 2009. In early 2009, AVIC was reported as the largest borrower of these loans, but it is not known what proportion of the loans was dedicated to the arms side of AVIC's business. See Lagerkranser, P., 'China banks surge to world's biggest may be too good to be true', *Bloomberg.com*, 30 Apr. 2009, <<http://www.bloomberg.com/apps/news?pid=20601109&sid=aueh06DOY37A>>.

⁹² Grevatt, J., 'China's defence industry bucks wider market downturn', *Jane's Defence Industry*, 2 Sep. 2009.

⁹³ Wallis, K., 'China stimulus package to benefit larger yards', *Lloyds List*, 26 Feb. 2009.

⁹⁴ Hao, T., 'Shipbuilders in consolidation mode', *China Daily*, 16 Feb. 2009.

V. Conclusions: continuity despite the crisis

The financial crisis and recession have not had a significant negative impact on the arms industry. Arms sales in 2008 continued their upward trend and an initial assessment of 2009 company statements shows strong results for their military segments for that year also. Furthermore, regional shares remained stable in 2008, indicating that no particular region experienced a negative impact from the early effects of the crisis. There are several factors that contribute to the continuity despite a global financial crisis and recession, including high levels of military expenditure, the inherent characteristics of the arms industry and the ongoing conflicts in Afghanistan and Iraq.

As the largest military spender and arms procurer, the policy of the USA regarding the financial crisis and recession has a potentially strong impact on the global arms industry. Cuts have not materialized in either the USA's overall military expenditure or its procurement. On the contrary, US military expenditure increased in 2009.⁹⁵ While the industry will continue to watch closely to see if the USA shifts its spending away from procurement of large weapon systems, for now many of these programmes either remain intact or have been postponed but not cancelled outright.⁹⁶ Spending on armoured vehicles and UAVs for the conflicts in Afghanistan and Iraq will continue and, at least in the short term, the USA is expected to continue to hire contractors and outsource military-related services.

The monopsonistic structure of the arms industry, the consequent strong relationships between arms producers and governments, and the industry's perceived importance to national security also shield it from the immediate impact of severe economic downturns.⁹⁷ This status is reflected in the continued high levels of arms sales, high profits, large backlogs and strong cash flows generated by arms production even as other industries verge on faltering and need more government economic assistance.

With the conflicts in Afghanistan and Iraq continuing and with the industry likely to emerge relatively unscathed after the recession, the expectation is that the current trends in the arms industry will continue.

⁹⁵ See chapter 5 in this volume.

⁹⁶ Hartley, K. and Solomon, B., 'NATO and the economic and financial crisis', NATO Research Paper no. 52, Oct. 2009, <<http://www.ndc.nato.int/research/series.php?icode=1>>.

⁹⁷ See e.g. Sköns, E. and Dunne, J. P., 'Economics of arms production', ed. L. Kurtz, *Encyclopedia of Violence, Peace, and Conflict*, 2nd edn, vol. 1 (Elsevier: Oxford, 2008); and Dunne, J. P., 'The defense industrial base', eds K. Hartley and T. Sandler, *Handbook of Defense Economics*, vol. 1 (North-Holland: Amsterdam, 1995).