

I. Key developments in the arms industry, 2015

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The sales of arms and military services by the SIPRI Top 100—the world's 100 largest arms producing and military services companies outside China, ranked by their arms sales—have been decreasing since their peak in 2010, although the pace of the decline has been slowing over the past two years.¹ This downward trend can be attributed largely to reductions in sales of companies based in the USA and Western Europe, which dominate the Top 100 both in terms of the number of companies ranked and in arms revenues. There were two main causes of the decrease in Top 100 revenues in 2014. First, the adoption of austerity measures to address the consequences of the financial crisis of 2008 led to reduced military spending, including on arms and military services procurement. Second, the formal withdrawal of coalition forces from Iraq in 2011, and of North Atlantic Treaty Organization (NATO) and coalition forces from Afghanistan in 2014, lowered demand for equipment and services acquired specifically for these conflicts (in particular mine protected armoured vehicles and private security services in theatres of operations).² Previously, the extent of resources allocated by the USA to procure goods and services needed specifically for these conflicts had led producers of armoured vehicles, such as Navistar, and private military services companies, such as KBR, to rate among the largest arms and military services companies, ranked by their arms sales.³

The general decrease in the global arms industry revenues has also been tempered by significant growth in sales by companies based outside of the USA and Western Europe. Notably, Russian companies have significantly increased trade due to large domestic procurement spending and continuing export success, as Russia remains the second largest arms exporter in the world.⁴ In addition, the ongoing process of industry consolidation in

¹ Companies included in the yearly SIPRI Top 100 may change from year to year, especially those situated at lower ranks. Consequently, comparisons between total revenues do not necessarily include the same companies each year.

² A military coalition led by the USA has conducted operations military in Iraq since 2014 in the context of the war against the Islamic State (IS). The decision to withdraw from Afghanistan was reversed in Oct. 2015 after a review of the security situation in the country. Rosenberg, M. and Shear, M.D., 'In reversal, Obama says U.S. soldiers will stay in Afghanistan to 2017', *New York Times*, 15 Oct. 2015.

³ KBR, ranked 40th in the Top 100 in 2002 and 12th in 2006, dropped out of the Top 100 in 2013. Navistar entered the Top 100 in 2008 ranked 20th after receiving major orders for armoured vehicles by the US Government. It exited the Top 100 in 2013. See SIPRI Top 100 data in a time series from 2002–14, <<http://www.sipri.org/research/armaments/production/recent-trends-in-arms-industry>>.

⁴ On Russian arms exports, see chapter 15 in this volume. For current spending on procurement and Russia's armament programme, see 'Russia's spending on the state armament program to reach \$40 bln in 2015 – Defense Ministry', ITAR/TASS, 15 Apr. 2015.

Russia—which tends to combine sales of the groups that are merging—has contributed to a considerable increase in its companies' sales figures.⁵ Companies based in Brazil, South Korea and Turkey have also increased their revenues, mostly due to strong domestic demand.

Contradictory trends in global economic and geopolitical conditions indicate that the arms industry is faced with conflicting signals. On the one hand, rising tensions in East Asia, perceptions of a growing threat posed by Russia in Eastern and Northern Europe, and wars waged against rebel forces in the Middle East and Northern Africa are creating pressures to increase military spending in several regions and have led governments to plan major weapons acquisitions.⁶ In particular, the prospect of reduced sanctions against Iran following the Iran nuclear deal and conflicts in Syria and Yemen have led to an upsurge in regional weapons acquisition in the Middle East.⁷ However, enduring economic difficulties in the Global North and the substantial fall in oil prices are impacting upon national revenues in other regions, potentially jeopardizing ambitious acquisition programmes in importing countries and subsequently directly affecting companies' anticipated sales.⁸

The United States

Revenues of US-based companies fell as US forces withdrew from Iraq and Afghanistan and due to the implementation of the Budget Control Act (BCA), which imposed limits (or caps) on all government spending, including funds allocated to the Department of Defense (DOD).⁹ In 2014 and 2015, persistent political gridlock on how to reduce the country's deficit continued to hinder the adoption of the bipartisan agreement needed to remove the spending caps. For the second time, this situation led policymakers to adopt

⁵ Pyadushkin, M., 'Russia military modernization under President Putin', *Aviation Week & Space Technology*, 15 Jan. 2015.

⁶ On perceptions of increased Russian aggression, see: See Lyman, R., 'Eastern Europe cautiously welcomes larger U.S. military presence', *New York Times*, 2 Feb. 2016; and 'Nordic countries extend military alliance in face of Russian aggression', *The Guardian*, 10 Apr. 2015. Rebel forces include armed groups such as the Islamic State (IS), Boko Haram, al-Qaeda and AQIM.

⁷ See, for example, Dillow, C., 'U.S. greenlights sales of 600 Patriot missiles to Saudi Arabia', *Fortune*, 1 Aug. 2015; and Binnie, J., 'Saudi Arabia's unlikely Russian arms deals', *IHS Jane's 360*, 11 Aug. 2015. On the conflict in Syria, see chapter 4, section II, in this volume; on sanctions against Iran, see chapter 3 in this volume; and on Iran's nuclear deal, see chapter 17 in this volume.

⁸ For example, Brazil, Saudi Arabia and Venezuela have either planned or implemented national defence cuts. See Caffrey, C., 'Saudi Arabia announces 2016 budget', *Jane's Defence Weekly*, 29 Dec. 2015; Haynes, B., 'Update 2: Brazil's Embraer delays cargo jet, loses revenues on defense cuts', *Reuters*, 30 July 2015; and Rueda, M., 'Venezuela slashed military spending by 34%, but deep cuts are unlikely to spark revolt among top brass', *Fusion.net*, 15 Apr. 2015.

⁹ See SIPRI (note 3). The US Budget Control Act was adopted in Aug. 2011, see Budget Control Act of 2011, US Public Law 112-25, 2 Aug. 2011. For further discussion of the influence of the Budget Control Act on US military expenditure see chapter 13, section II, in this volume. See also Sköns, E. and Perlo-Freeman, S., 'The United States' military spending and the 2011 budget crisis', *SIPRI Yearbook 2012*, pp. 162–66.

short-term legislation in 2015 to alleviate financial pressure on governmental agencies, including the DOD, by raising budget caps and therefore increasing available resources for financial years 2015 and 2016.¹⁰ As was the case in 2013, the short-term agreement of 2015 allowed the DOD to revise its procurement spending upwards and reopen some of the planned orders for weapons that were delayed following the implementation of the BCA.¹¹ This temporary easing of spending limitations explains the slowdown in US arms companies' sales decrease for 2013 and 2014, and will likely have the same effect in 2015 and 2016.

However, a fiscal environment characterized by the continuing existence of mandatory budget limits dealt with through short-term budget negotiations, coupled with persistent domestic political strife, has generated uncertainty for US arms producers as it challenges the DOD's ability to fund all planned weapons programmes.¹² So far, the US industry has mostly adapted by divesting less profitable units—in particular those in charge of information technology and federal services—to concentrate on weapons manufacturing and integration.¹³ The industry also intends to pursue export opportunities more aggressively, a goal fully supported by the DOD.¹⁴ In addition, some domestic consolidation has occurred, but the deals approved since the onset of the financial crisis have not involved major prime contractors, since the DOD announced in 2011 that it would oppose any proposals to this effect.¹⁵ This was partly due to concerns about the current level of concentration of US prime contractors in key production segments, and its likely impact on military innovation, competition and price for large and technically challenging new generation weapons programmes.¹⁶

In this context, the acquisition of helicopter manufacturer, Sikorsky, by the world's largest arms producer, Lockheed Martin, in 2015 has generated unease at the DOD.¹⁷ Although the sale does not reduce the number of helicopter producers in the USA (as Lockheed Martin abandoned its limited capability in the 1970s), it does add another significant activity to Lockheed

¹⁰ Gould, J., 'US budget deal provides industry, military stability', *Defense News*, 31 Oct. 2015. See also chapter 13, section II, in this volume for a more detailed discussion of the two-year budget agreements.

¹¹ The procurement budget of the US DOD was the most severely affected by cuts made in the wake of the BCA. See US Government, Office of Management and Budget (OMB), OMB Historical tables – compositions of outlays.

¹² Erwin, S., 'Defense 2015 preview: downturn ends but industry troubles not over', *National Defense*, 30 Dec. 2014.

¹³ Thompson, L., 'Exodus: big defense companies are exiting federal services', *Forbes*, 8 Apr. 2015.

¹⁴ Shapiro, A., 'Comment: grappling with foreign sales', *Defense News*, 2 Mar. 2015.

¹⁵ Cook, B., Capaccio, A. and Ratnal, J., 'Pentagon welcomes mergers except for top six suppliers', *Bloomberg*, 9 Feb. 2011.

¹⁶ Mehta, A. and Clevenger, A., 'Kendall seeks Congressional action against prime mergers', *Defense News*, 30 Sep. 2015. See also chapter 13, section II, in this volume for a more detailed discussion on the Bipartisan Budget Act of 2015.

¹⁷ See Cook, Capaccio and Ratnal (note 15) and Mehta and Clevenger (note 16).

Martin's already comprehensive portfolio and large presence in the domestic market. Since the sale was approved, the DOD has announced that it will seek greater oversight over these transactions, indicating that the existing legislative tools designed to address defence industry consolidation issues are deemed inadequate.

Despite the uncertain domestic budget dynamic, the DOD announced a series of new major weapons programmes in 2015.¹⁸ Several of these projects, such as the long-range strike bomber, a new generation of nuclear intercontinental missiles carrying submarines, and a cruise missile capable of transporting a nuclear warhead, are directly linked to the modernization of the US nuclear arsenal. Companies entrusted with the production of the delivery systems (such as Northrop Grumman which has won the competition for the new strategic bomber in 2015) will likely see their arms sales increase significantly in the future.¹⁹ Perceptions of growing 'near-peers' competition from China and Russia by US officials have also motivated investments in research and development (R&D) to acquire novel, advanced military capabilities which will likely translate into new major weapons programmes in the future.²⁰

Russia

In general, the growth observed in Russian arms companies sales in the late 2000s is attributable to the Russian Ministry of Defence's almost 10-year objective of upgrading Russian arms production capabilities and the ongoing consolidation of arms companies (which creates larger entities and increases the turnover of the merged companies).²¹ However, the deterioration of the country's economy due to low oil prices and the impact of economic sanctions imposed in the context of the war with Ukraine may result in cuts in military procurement and a subsequent knock-on effect to companies' sales.²²

To a large extent, the domestic demand for equipment is driven both by threat perceptions and by the concept that military might is a central

¹⁸ Mehta, A., 'Carter unveils budget details; Pentagon requests \$582.7 request billion', *Defense News*, 2 Feb. 2016.

¹⁹ The 'long range strike bomber' programme is the largest US aircraft programmes since the F-35. See Seligman, L., Clevenger, A. and Mehta, A., 'Northrop Grumman wins Air Forces' long range strike bomber contract', *Defense News*, 28 Oct. 2015.

²⁰ Gady, F. S., 'New US defense budget: \$18 billion for third offset strategy', *The Diplomat*, 10 Feb. 2016.

²¹ Most observers pinpoint the start of the arms industry modernization project during the 2008 Russia–Georgia war. See Murphy, J., 'Russia boosts defence spending', *Jane's Defence Weekly*, 31 Aug. 2008; and Renz, B. and Thornton, R., 'Russian military modernization', *Problems of Post-Communism*, vol. 59, no.1 (2012), pp. 44–54.

²² Zavialova, K. and Kelly, L., 'Russia in recession in 2015, ruble to stay pressured: Reuters poll', *Reuters*, 22 Dec. 2014; and Caffrey, C., 'Russia cuts 2015 defence spending', *Jane's Defence Industry*, 16 June 2015.

component of Russia's great power status.²³ Russia's ambitious plan to modernize its arms production capabilities had earlier been made possible by strong economic growth and the willingness to apportion a larger part of the country's GDP to the military budget than its Western counterparts.²⁴ The modernization of Russian arms production also involved retooling and upgrading the factories, as well as rationalizing capabilities through domestic consolidation, mergers and acquisitions.²⁵ Since its implementation, the comprehensive arms industry modernization project has met with a variety of difficulties and continues to face complications in the context of sanctions and a failing economy.²⁶

With arms export revenues averaging \$14–15 billion annually over the past few years according to official figures, Russian companies continue to be major suppliers on the international arms market, although they are heavily dependent on a handful of customers.²⁷ This has led several firms to report exports as a 25–30 per cent share of their total sales. However, as the drop in oil prices also impact important recipients of Russian military equipment (such as Venezuela), Russian companies' exports sales may also start to decrease.

Overall, the current economic situation in Russia raises questions about the sustainability of its arms industry project.²⁸ However, there has been no indication so far that Russia intends to change course, although predicted growth for the country's military expenditure was revised downwards in 2015.²⁹

Western Europe

Sales by Western European arms producers continued to be driven downwards by defence budget cuts or stagnation from austerity policies imple-

²³ Masters, J., 'The Russian Military', *CFR Backgrounders*, Council on Foreign Relations, 28 Sep. 2015.

²⁴ See chapter 13 in this volume.

²⁵ Mitchell, C. A., *Phoenix from the ashes? Russia's defence industrial complex and its exports* (Australian National University Press: Acton, 2009); and Anderson, G. and Dunai, P., 'Russian consolidation under Rostec continues' *Jane's Defence Industry*, 4 June 2015.

²⁶ Among these difficulties is corruption, see Clements, M. and Anderson, G., 'Russia launches defence industry corruption probe', *Jane's Defence Industry*, 3 Apr. 2013. There are also problems in the quality of the weapons produced. See 'Defence sector modernisation rate too slow—Medvedev' ITAR-TASS, 26 Oct. 2009; and Zudin, A. and Forrester, C., 'Russian Ministers admit industry hit by sanctions', *Jane's Defence Weekly*, 20 July 2015.

²⁷ India is by far the largest recipient of Russian arms with a total share of 39 per cent for the period 2011–15. Transfers to China and Viet Nam together account for 11 per cent of Russian arms exports for the same period. See chapter 15, section I, in this volume for a review of Russia arms transfers.

²⁸ Anderson, G., 'Finding funds for Russian defence industry reform during financial crisis', *Jane's Defence Industry*, 12 Nov. 2008.

²⁹ Bodner, M., 'Russia's defense spending to remain essentially flat', *Defense News*, 8 Nov. 2015.

mented to address the consequences of the 2008 financial and economic crisis. The situation in Spain is illustrative of the difficulties faced by European producers.

For the first time since 2005, no Spanish companies appear in the Top 100 for 2014. The shipbuilding company, Navantia (ranked 49th in 2010), saw its arms sales decrease by approximately 65 per cent over the past five years, mostly due to the continuing Spanish budget decline and delays in delivering new submarines to the Spanish Navy—and despite delivering an amphibious assault ship, the company's second largest ever export.³⁰ Since 2008, the Spanish Ministry of Defence (MOD) has been struggling with finding resources to support its 'special armaments programme' started in the late 1990s. Since the start of the financial crisis, the Spanish government has regularly voted for additional funds to pay the companies responsible for managing and producing the nineteen major weapons projects covered by this programme, while simultaneously reducing the total amount initially planned.³¹

The circumstances faced by Western European arms producers since the outset of the economic crisis underlines the enduring importance to companies of orders from their national governments. It also reflects Western Europe's persistent excess arms production capacity in some sectors (due to an overlap of production capabilities in several sectors between major European arms-producing countries), as well as difficulties in implementing demand-side cooperation projects, such as large joint weapons programmes.³² Although this situation continues to be decried at the regional, national and company levels, major consolidation initiatives have been sparse in recent years.³³ Among recent transactions, the merger announced in 2014 between armoured vehicles manufacturers Krauss-Maffei-Wegmann (KMW-Germany) and Nexter (France), temporarily named Kant, was expected to materialize in 2016 and represent in scope the most significant trans-European industrial tie-up since the start of the economic crisis.³⁴

As the USA announced its intention to modernize its nuclear arsenal, France and the United Kingdom began discussing the possibility of greater state control over their military nuclear propulsion production capabilities.

³⁰ MacDonald, A., 'Spanish Succession', *Jane's Defence Weekly*, 8 Apr. 2015. For Spain's past arms transfers, see SIPRI Arms Transfers Database <<http://www.sipri.org/databases/armstransfers>>.

³¹ Darling, D., 'Spain tops-up defence budget as legacy program costs linger', *Forecast International Blog*, 22 May 2015.

³² 'Consolidating Europe's defence industries. Big rewards, big obstacles', *Strategic Comments*, vol. 11, no. 4 (2005), pp. 1–2. The most often cited areas of production overlap are the land and naval sectors, and the existence of three European producers of combat aircraft.

³³ Jennings, G., 'European defence industry must co-operate and consolidate to survive', *Jane's Defence Weekly*, 19 Nov. 2015; and 'A hard pounding, this', *The Economist*, 2 Mar. 2013.

³⁴ Forrester, C., 'Analysis: The KMW-Nexter merger and Europe's defence industrial base', *Jane's Defence Industry*, 30 July 2015.

In France, the Areva Group, which combined both the state's civilian and military nuclear production capabilities except for the production of nuclear warheads, is being dismantled following very poor financial results in 2014.³⁵ In this context, the future of Areva TA—the unit responsible for producing nuclear-powered reactors and fuel for nuclear submarines and aircraft carriers—has emerged as a sovereignty issue.³⁶ In 2015, the decision was made to place Areva TA under majority state control with the remaining shares held by shipbuilding company DCNS, the Alternative Energies and Atomic Energy Commission (CEA) and the EDF electricity company—groups that are also partially under state control.³⁷

In the UK, discussions about the future of Rolls-Royce nuclear reactors for submarine propulsion started in 2015 following the group's poor financial results over the past two years and a perceived vulnerability to foreign investors.³⁸ Notably, these discussions are emerging in the context of the Conservative Government's commitment to renew 'like-for-like' the current fleet of nuclear submarines, the last remaining British nuclear weapons capability.³⁹ Reports indicate that the British MOD was considering two main options: nationalizing the Rolls-Royce unit in charge of nuclear propulsion for the submarines, or forcing its integration with BAE Systems, the UK's largest arms producer.⁴⁰

Other established producers

The 'established producers' category covers a diversified and changing group of countries such as Australia, Israel, Japan, Singapore, Switzerland and Ukraine, with selective production capabilities that sell to their respective defence ministries and on the international market. What distinguishes them from major producers (such as the USA and France) is that they do not have comprehensive arms production capabilities, relying on imports to varying degrees for some of their weapons needs. Most of the established producers' companies rely on their domestic government for a significant part of their sales.

³⁵ Bridier, G., 'Le démantèlement d'Areva pourrait profiter à beaucoup de monde' [The dismantling of Areva could benefit many], *Slate.fr*, 1 June 2015.

³⁶ Cabiro, M., 'Pourquoi l'État va "nationaliser" Areva TA' [Why the State will 'nationalize' Areva TA], *La Tribune.fr*, 21 Dec. 2015.

³⁷ Cosnard, D., 'L'État nationalise une partie d'Areva' [The State nationalizes part of Areva], *Le Monde*, 16 Dec. 2015. On French nuclear weapons modernization plans, also see chapter 16, section IV, in this volume.

³⁸ Bhutia, J., 'Rolls-Royce crisis: Government may nationalise company's nuclear submarine business', *International Business Times*, 14 Dec. 2015; and Ruddick, G., 'Rolls-Royce eyes possible re-entry into smaller plane market', *The Guardian*, 30 Dec. 2015.

³⁹ Ritchie, N., *Replacing Trident. Background briefing for Parliamentarians*, Bradford Disarmament Research Centre, Jan. 2011.

⁴⁰ On British nuclear weapons modernization plans, see chapter 16, section III, in this volume.

A notable development within this category concerned Polish company, PGZ, which experienced a spike in sales as a direct consequence of the consolidation of several of Poland's defence companies under one group over the past few years. Under state control, PGZ was created to integrate key defence enterprises.⁴¹ In 2014, seventeen companies were merged under PGZ as Poland pursued several goals, namely: (a) to equip its armed forces with material produced by national industries in order for Polish companies to benefit from major domestic procurement plans; (b) to improve the technological capacity of the Polish arms industry; and (c) to increase arms exports.⁴² These efforts have also been boosted by concerns over Russia's intentions in the context of the crisis with Ukraine.⁴³

Also noteworthy is Ukraine's 37.4 per cent decrease in its arms sales due to its ongoing conflict with rebel forces and the annexation of Crimea by Russia. This conflict has led to interruptions in production as well as the termination of trade between Russia and Ukraine.⁴⁴ In Japan, the increase in companies' sales is attributable to domestic orders, as new legislation alleviating restrictions on exports of weapons have not yet impacted on the arms industry's activities.⁴⁵

Australia's two ranked companies, shipbuilders ASC and Austal, demonstrated a substantial increase in their arms sales. ASC's growth can be attributed to the delivery of the first of four Air Warfare Destroyers (AWD), its only activity in May 2014.⁴⁶ However, both the programme and the company experienced difficulties after the production of the first ship showed considerable cost overruns, and following announcements that the three subsequent ship deliveries would be significantly delayed.⁴⁷ Austal is also involved in the controversial and costly US Littoral Combat Ship Programme, and delivers patrol boats to the Australian Border force.⁴⁸

⁴¹ Balis, C., 'Poland's balancing act: a briefing for the defence sector part 1', *Defense Industry Daily*, 17 Aug. 2014.

⁴² Fryer-Briggs, Z., 'Poland to spend USD40 billion by 2022 on modernization', *Jane's Defence Weekly*, 20 May 2015.

⁴³ Adamowski, J., 'Poland, US to boost military ties as Ukraine crisis escalates', *Defense News*, 6 Mar. 2014.

⁴⁴ 'Russia to block development of Ukraine's military industry – pundit', *Open Source Center*, 20 Dec. 2013.

⁴⁵ Grevatt, J., 'Japan's defence white paper outlines boost to industry', *Jane's Defence Weekly*, 13 Aug. 2014.

⁴⁶ The AWD programme is run by a group of companies based in different countries, known as the Air Warfare Destroyer Alliance (ASC). ASC is the lead shipbuilder, joined by Raytheon Australia, BAE Systems and Navantia. Pittaway, N., 'More costs growth, delays for Australia's AWD', *Defense News*, 30 May 2015.

⁴⁷ Grevatt, J., 'Australian government to launch strategic review of ASC', *Jane's Defence Industry*, 29 June 2015.

⁴⁸ Forrester, C., 'Austal reveals record year in 2015 results', *Jane's Defence Industry*, 26 Aug. 2015.

Emerging producers

The intent behind SIPRI's creation of an 'emerging producer' category is to monitor companies that have entered or, in some cases re-entered, the Top 100 as a result of specific policy choices made by the states where they are headquartered in order to develop significant indigenous military industrial capabilities. In this sense, they are distinct from 'established producers' in that they are still pursuing goals of developing a military-industrial base.

Three major issues warrant a closer examination of these countries' experiences. First is the possibility that the development of new production capabilities leads to a greater dissemination of arms production know-how and design capabilities, thereby potentially increasing the availability of arms by creating new suppliers in the international market.⁴⁹ Secondly, as weapons production capabilities are still largely perceived as an important means of power and influence in regional and international affairs, they could reshape existing alliances and support the development of new defence relationships.⁵⁰ Lastly, the financial resources required to build indigenous arms production capabilities can be significant, and are often linked to the country's economic situation. Indeed, whether the capabilities are developed purely nationally or via technology transfers, know-how and production from a supplier country through offsets, the objective of building an arms industry commits the state to long-term military spending.⁵¹ Such a project can therefore be called into question when economic indicators deteriorate.

Although there was renewed interest during the 2000s by a diverse group of countries in launching large and ambitious procurement programmes to support goals of modernizing or creating a military industrial base, efforts at developing national arms industries are far from being new.⁵² They are also known to be difficult to implement and not always successful.⁵³ For

⁴⁹ The issue of whether the creation of new arms production capabilities in emerging producers would increase arms transfers is the subject of disagreement in the literature. See Bitzinger, R., 'The global arms trade: "Hyundaiisation" threat from new suppliers?', Atlantic Council, 24 Apr. 2015.

⁵⁰ Jackson, S. T., 'The National Security Exception, the Global Political Economy and Militarization', eds K. Gouliamos and C. Kassimeris, *The Marketing of War in the Age of Neo-Militarism* (Routledge: London: 2012). For example, China—now a major exporter following decades of developing its arms industry—is building new security relationships through the exports of Chinese armaments in South-East Asia, and maintaining close relations with several African countries where it has an economic presence through large infrastructure engineering and construction or mining activities. See Wezeman, P. D., Wezeman, S. T. and Béraud-Sudreau, L., *Arms flows to sub-saharan Africa*, SIPRI Policy Paper no. 30 (SIPRI: Stockholm, Dec. 2011).

⁵¹ Pelza, M., 'Bullets from Brazil: Growing military industrialism in Latin America', WOLA, 21 Mar. 2014.

⁵² Often referred to as 'emerging countries' or 'emerging markets'. See, for example, 'Africa: The next defence market opportunity?', Defense Industry Daily, 16 Dec. 2015. Clevenger identifies Angola, Columbia, Kuwait, Peru and Qatar as emerging markets. Clevenger, A., 'Emerging markets offer growth opportunities', *Defense News*, 31 Aug. 2015.

⁵³ Conca, K., 'Between global markets and domestic politics: Brazil's military-industrial collapse', *Review of International Studies*, vol. 24 (1998), pp. 499–513.

example, India has been working to develop a capable national arms industry for approximately five decades, but is still reliant on imports for several categories of weapons.⁵⁴ South Korea is an example of a successful process that started in the 1970s. However, to some extent the country still relies on its close relationships with the USA and Western Europe to produce more advanced platforms and systems.⁵⁵

The largest customers for companies based in these countries are the national defence ministries. However, what differentiates them from established producers is that procurement programmes and accompanying funding are leveraged to support the establishment and development of indigenous military production through the use of offsets, the transfer of know-how and/or technologies, the opening of foreign subsidiaries, partnering with local companies and/or inserting local producers in the supply chains of foreign producers.⁵⁶ Considering the significant amount of resources implementing such a plan requires, states engaged in such projects generally pursue multiple goals simultaneously. The most cited ones are reducing or eliminating dependence to foreign suppliers in specific production segments; strengthening the country's influence in regional and international affairs; increasing arms build-up and rivalry in the region; supporting manufacturing and technological development in specific areas (electronics, aerospace, etc.); and establishing long-term security partnerships with major arms-producing countries.⁵⁷

⁵⁴ Gardiner, H., 'World's biggest arms importer, India wants to buy local', *New York Times*, 6 Mar. 2014; Gupta, A., *Building an Arsenal* (Praeger: Westport, CT, 1997), pp. 1–23; and SIPRI Arms Transfers Database <<http://www.sipri.org/databases/armstransfers>>.

⁵⁵ Chinworth, M., 'Offset policies and trends in Japan, South Korea and Taiwan', eds J. Brauer, and J. P. Dunne, *Arms Trade and Economic Development* (Routledge: London, 2004), pp. 217–54.

⁵⁶ This is the case for all countries listed as emerging arms producers: Brazil, India, South Korea and Turkey. For cases studies on Brazil, India and South Korea see Smith, C., *India's Ad Hoc Arsenal* (SIPRI: Oxford University Press, 1994), pp. 105–30; and Brauer and Dunne (note 55); on Turkey see Jackson, S. T., 'Arms production and military services', *SIPRI Yearbook 2012*; on Brazil see section II of this chapter.

⁵⁷ Bitzinger, R., 'Defense industry in Asia and the technonationalist impulse', *Contemporary Security Policy*, vol. 36, no. 3 (2015), pp. 453–72; and Gupta (note 54).